THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

MARCH, 1898.

ELECTION OF EXAMINERS.

ROYAL COLLEGE OF VETERINARY SURGEONS,
10, Red Lion Square, London, W.C.

February, 1898.

THE examiners to conduct the examinations of the Royal College of Veterinary Surgeons will be elected at a meeting of council, to be held on the 5th day of April, 1898.

Each candidate for the office of examiner must, at least fourteen days before the date of election, intimate in writing to the secretary (either by himself or with his consent, by a member of the Royal College of Veterinary Surgeons) his desire to be appointed, specifying for which class and subject, and stating his full name and qualifications.

Each examiner will be elected for such period not exceeding three years, as the council may think fit.

The classes and subjects are as follows :—

FOUR YEARS' COURSE.

Examination A.

1. Anatomy of domesticated animals—bones—ligaments, joints, etc. Two examiners.
2. Chemistry and elementary physics. Two examiners.
3. Biology—elementary zoology and botany. Two examiners.

Examination B

1. Anatomy of domesticated animals. Two examiners.
2. Histology and physiology. Two examiners.
3. Stable management and manipulation of domesticated animals—principles of shoeing. Two examiners.

Examination C.

1. Morbid anatomy—pathology and bacteriology. Two examiners.
2. Materia medica—pharmacy—therapeutics, and toxicology. Two examiners.
3. Veterinary hygiene and dietetics. Two examiners.

Examination D.

1. Principles and practice of veterinary medicine and meat inspection. Two examiners.
2. Principles and practice of veterinary surgery, and obstetrics. Two examiners.

By order of the Council.

ARTHUR W. HILL,
Secretary.

For terms and regulations apply to the secretary.

ELECTION OF EXAMINERS FOR THE FELLOWSHIP DEGREE.

ROYAL COLLEGE OF VETERINARY SURGEONS,
10, Red Lion Square, London, W.C.

February, 1898.

THE Examiners to conduct this Examination will be elected at a meeting of council to be held on the 5th day of April, 1898. Every candidate must be nominated in writing to the Secretary (either by himself or with his consent by a member of the Royal College of Veterinary Surgeons) at least 14 days before the election takes place, and the names, with their qualifications, must appear on the circular convening the meeting at which they are to be appointed. Three Examiners will be appointed. One for *Veterinary Medicine and Surgery*; one for *Veterinary Hygiene and Sanitary Science*; and one for *Pathology and Bacteriology*.

By order of the council.

ARTHUR W. HILL,
Secretary.

For forms and regulations apply to the Secretary.

AN EMBRYOLOGICAL DISCOVERY.

FROM Vienna comes the startling announcement that the Professor of Embryology, at the university there, Dr. Schenk, has discovered a process which enables him at will to exercise a decisive influence upon the embryo, whether in man or in the lower animals, and so determine whether it shall be male or female. It is added that this result is obtained by attention to the change of food-matter, and without medical or surgical interference.

The assertion that spare diet for the mother is favourable to the production of male animals has been often made, and statistics have been brought forward to support it, but only within recent times has a proper basis been sought for it in experiments made by animal breeders. Fiquet mentions a process by which he obtained positive results in more than thirty cases when dealing with cows, by means of which he says it is possible for him to determine beforehand the sex of the calf. He allows the first yearning of the cow to pass unsatisfied, and this returns three weeks later. In the interval he feeds her, if he wants a bull-calf, on the strongest food, and lets her pasture on the fattest meadow-land, whilst the bull is kept upon spare diet; by this means at the end of three weeks the sexual capacity of the cow has arrived at its highest point, whilst in the bull the very opposite state is observed. If he wants a female calf, he reverses the process; he starves the cow and feeds up the bull. Of course, it is plain that these experiments are very rude, and we must therefore wait patiently and see if Professor Schenk has succeeded in finding a scientific basis for his experiments and a scholarly method for their application.

Professor Schenk speaks as follows of his discovery: "I have been working away for more than twenty years at this matter, and during all that time *I have never had one single failure to chronicle.* Not only in my own household, where my six boys (two of them, alas, are dead) prove the correctness of my discovery, but also amongst my friends and acquaintances have I had opportunity of verifying my thesis; in all cases I have had positive results. Especially within recent years my observations and results have been so startling, that I feel myself compelled to publish them to the world. The method and the principles of my discovery I must reserve for some little time yet, perhaps till the end of the summer holidays, so great is the mass of material which I have to reduce to order. The matter is not so very

recondite. Others have worked in the field before me, and I am merely adding to their results. Of course, my work is in many ways modified, and therefore differs in many points radically from earlier work by other men, principally because these men paid no heed to the change in administration of food-matter in the human subject. This, in my opinion, based upon experiments, *is the essential part of the whole thing*. Of all investigators in this field, the man whose results are best known is the Swiss savant, Thury. His investigations were based upon the Darwinian theory. In making them, he laid greatest stress upon the age of the marrying couple, and based his calculations largely thereon.

My doctrine is based, as I have already said, upon difference of food-matter, upon the difference in the mode of nourishment, which need not be extended to both sides. In the mother's womb every being is at first hermaphrodite; this state is permanent in some animals, but in others—and amongst these the human species—a change takes place in such a way that certain organs arrive at their intended development whilst the opposite organs dwindle. At this stage of development my system intervenes in order to exercise an influence in favour of the one or the other sex. I hope to obtain from my system advantages for the agriculturist, so that animals for work or for breeding purposes may be obtained at will. I hope also to obtain advantages for humanity, so that when one sex predominates a change may be brought about and the balance may be restored. More I cannot say at present. The numerous experiments which I have made in my laboratory with dogs, guinea-pigs, and birds *are incontestable*. In these, as in my experiments with the human species, I have verified the same principles. All my experiments of later years have proved clearly to me the correctness of my theory; as were the experiments so were the results."

This discovery is treated very sceptically both by scientific authorities and by the press. Professor Virchow, the past-master in Biology, speaks as follows:—"Professor Schenk has in his scientific career found so many opponents that I fear opponents will not be wanting even in the present instance. As the male sex is stronger and bigger than the female, one might well assume that strong and well-nourished women would be better adapted for producing boys than would weakly and ill-nourished women. But this is merely an assumption for which closer confirmation is wanting, just as, in a general way, all attempts hitherto made to determine

sex capriciously have been more or less failures. In order to give a proper opinion on Professor Schenk's statements one must first of all know *when* he begins to apply his means for determining the sex of the fœtus. One thing appears to me certain that, so far back as in the ovum of the female we have latent sexual possibilities which are quite distinct; any influence upon the origin of sex must therefore, in my opinion, be exercised so far back as the time of the origin of the female ovum. That, for this reason, the question is not rendered any easier is quite evident; still, I should not like to dismiss summarily and without more ado the possibility of influence being brought to bear on the production of one sex or the other. I do not, however, think that it will be very easy to solve this problem, and I therefore take up a very sceptical position with regard to Professor Schenk's communication."

Professor Hertwig, director of the Anatomical and Biological Institute connected with the University of Berlin, says:—"We ought to receive all statements regarding the arbitrary influencing of sexual development with the greatest caution. In itself, the possibility of exercising such an influence is not altogether to be rejected as absurd, as undoubtedly *some* factor must contribute to the evolution of the one or the other sex, but whether Professor Schenk's method is really successful or not cannot for the present be decided, as a thorough test of it is not yet possible. Professor Hertwig further points to the fact that in the past successful attempts have been made in the way of determining the sex of the progeny of the lower animals, but it remains to be seen whether this is possible with regard to the human subject."

Professor Gusserow, chief of the Gynæcological Clinique attached to the University of Berlin, says:—"Taking into account the position which Professor Schenk occupies in the scientific world, we may assume that he will not, thoughtlessly, set the world in a state of excitement by his communications. All attempts hitherto made in this direction have failed to stand the test of experience, as, for example, in the case of women with narrow pelves, to get them to produce small children by reducing their dietary to the lowest point. I feel very sceptical with regard to Professor Schenk's statement, but I will not deny that he may possibly have discovered a method of arbitrarily deciding the evolution of sex. We must wait for further details before pronouncing an opinion. Certainly, such a discovery would be of enormous importance."

Professor Munk, chief of the Physiological Institute

attached to the Veterinary College in Berlin, says:—"There exist already a great many statements made by scientific men touching the question of the procedure to be adopted in order to produce a boy or a girl, but none of these have stood the test of examination. Still, Professor Schenk is a man from whom we may expect a calm and deliberate opinion, and, consequently, his promised communication is looked forward to with intense interest, for his discovery, if verified, would be one of extraordinary importance for the whole of humanity. The thing is in itself not impossible, and we must therefore hope that Professor Schenk will give us exact details as soon as possible" (*Deutsche Thierärztliche Wochensch.*).

ANOTHER ABNORMAL MEDIAN NERVE.

BY O. CHARNOCK BRADLEY.

JUST a year ago (February, 1897) I recorded, in this journal, a case of abnormal median nerve in the horse.

Recently Mr. S. Binks, one of my students, called attention to an abnormality which I feel compelled to regard as very similar to the one previously noted.

On completing the dissection, the following arrangement was disclosed. On a level with the insertion of the coraco-brachialis, the median nerve gave off a branch which passed downwards and backwards in a very oblique direction, to disappear under the anterior border of the flexor metacarpi internus muscle.

A short distance lower down a second branch left the main nerve-trunk, and passing external to the basilic vein, also disappeared beneath the above-mentioned muscle, but bifurcated just before doing so.

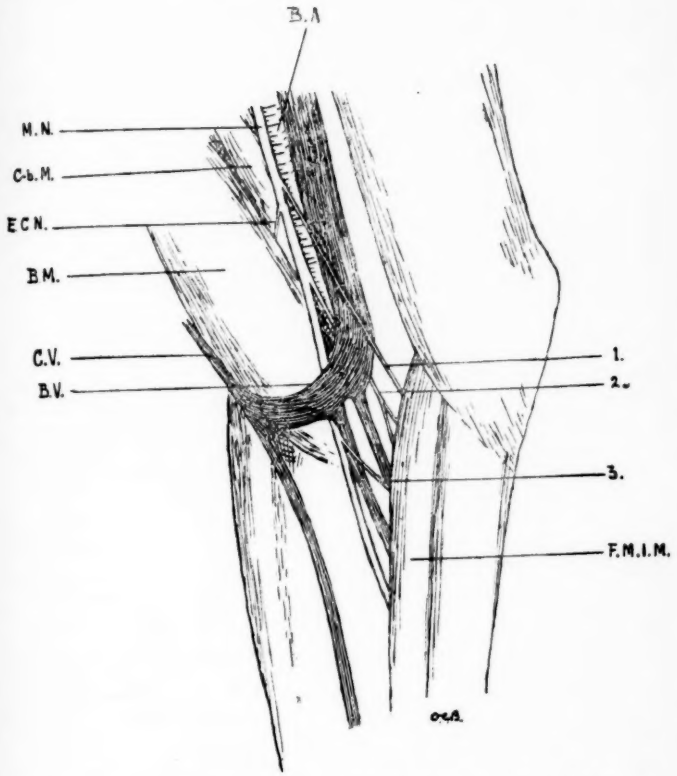
A third branch took origin about the point at which the usual muscular branch is found.

The disposition of the three branches is shown in the accompanying sketch (1, 2, and 3).

On carrying out the deep dissection of the posterior anti-brachial region, branch No. 1 was found to expend itself in the deep flexor of the digit (*Flexor perforans*), while branches 2 and 3 terminated in the flexor metacarpi internus.

In commenting upon the case recorded last year, I hazarded the opinion that possibly the occurrence was due to

a high origin of the customary muscular branch. The present anomaly seems to me to confirm that opinion.



B. A., Brachial Artery. M. N., Median Nerve. C.-b. M., Coraco-brachialis Muscle. E. C. N. External Cutaneous Nerve. B. M., Biceps Muscle. C. V., Cephalic Vein. B. V., Basilic Vein. F. M. I. M., Flexor Metacarpi Internus Muscle. 1, 2 and 3, Muscular Branches of Median Nerve.

It only remains to add that it is a singular coincidence that in both cases the abnormality occurred on the same side of the body, viz., the right.

HONOUR TO THE VETERINARY PROFESSION.

ONCE more Her Most Gracious Majesty the Queen has conferred a high honour on a member of the veterinary profession, and in so doing, we take it, she has indicated her appreciation of the worth of the veterinary profession as a body. We feel sure that all our readers will join us in hoping that Sir George T. Brown may live long to enjoy the distinction of his knighthood.

Rather more than fifty years ago (in 1847) Sir George T. Brown obtained the diploma of membership of the Royal College of Veterinary Surgeons, and forthwith commenced the practice of his profession in London. After a short experience as general practitioner, he was called upon to undertake the work of Professor of Veterinary Science at the Royal Agricultural College of Cirencester. This was in 1850; and even now the title of Honorary Professor of the above College belongs to the subject of our sketch.

In 1865 Sir George was associated with the late Professor Simonds in the Veterinary Department of the Government, and when Professor Simonds retired from the Department in order to take the duties of Principal of the Royal Veterinary College, his colleague succeeded him as chief adviser, a position he worthily sustained until the end of 1896.

In the Jubilee year of 1887 Her Majesty conferred the Companionship of the Most Honourable Order of the Bath upon Professor George T. Brown. In 1888 he was appointed Principal of the Royal Veterinary College, Camden Town, and in 1892 became one of the Governors of that Institution.

As we all know the crowning honor of knighthood was conferred in the present year of grace.

Among a long list of honours which it has been the lot of Professor Brown to sustain, we may mention the Presidency of the Royal College of Veterinary Surgeons, the Membership of its Board of Examiners and its Honorary Associateship. For very many years he has been associated with the best known Agricultural Societies, such as the Royal Agricultural Society of England, the Bath and West of England Society, the Lincolnshire Society and the Smithfield Club.

We take this opportunity of conveying our congratulations to Sir George T. Brown and of expressing the opinion—in which we feel sure our readers will join us—that the honour of which he is the recipient is well-deserved.

RINDERPEST IN BASUTOLAND.

BY WM. R. DAVIS.

Successful results of Bile Inoculation according to Koch's Method.

As so many contradictory statements are in circulation as to the utility of Koch's system of inoculation against rinderpest, I will, with your permission, give the results of its adoption in Basutoland. Basutoland, it should be premised, is quite independent of Cape Colony. It is, in fact, a native reserve administered by a resident commissioner (Sir Godfrey Lagden) with assistant commissioners in different parts of the country. Under these English officials the people are ruled by their own chiefs, the paramount chief, Lerothodi, and a few others receiving subsidies from the English Government, to whom they are responsible for keeping the peace and for the enforcement of the laws.

When it became evident that rinderpest was travelling southward from the Zambesi the resident commissioner took active steps to prevent, if possible, its introduction into Basutoland by the closing of the drifts to cattle traffic, the placing of guards and the establishment of disinfecting stations on the border. These measures kept the counntry free from the pest while it was ravaging the border countries of the Orange Free State and the Transvaal and Cape Colony. When at last the disease did make its appearance Sir Godfrey Lagden, having decided to adopt Koch's system of bile inoculation, and having made arrangements for carrying it out, called a meeting of the chiefs, and having warned them of the terrible nature of the malady, strongly urged on them the advisability of having their cattle inoculated. Most of the chiefs resolutely refused to have anything to do with the treatment, and not only so, but forbade their people to have their cattle done, and it was not until large numbers of cattle had died and the disease was spreading far and wide, and all sorts of remedies had been vainly tried, that they reluctantly consented to inoculate.

When I arrived in Basutoland on July 5th last practically the whole country was infected. Two veterinary surgeons, Mr. Armstrong and Mr. Robertson, lent by the Colonial Government, had inoculated a large number of cattle in the south of Basutoland. Mr. Robertson had already gone and Mr. Armstrong after remaining three weeks with me was also recalled to Cape Colony.

Early in September the cattle of all those who would consent to have them done were inoculated and the statistics, collected some time afterwards, show that 70 per cent. of those inoculated were saved.

At the annual meeting of the tribes which was held in October and at which I was present, several of the speakers thanked the Government for their introduction of inoculation and bitterly blamed their chiefs for not permitting them to take advantage of it until too late.

That the immunity conferred by bile is lasting is best proved by the fact that although we had five salted fortified cattle (beasts which had recovered from the disease and had received several injections of virulent rinderpest blood) from which I had prepared a large quantity of serum in order to try this method, not a single outbreak of the disease occurred in properly inoculated cattle, although many herds had received the bile inoculation nine months previously. It will thus be seen that Koch's system of bile inoculation against rinderpest is by no means the "splendid failure" that some colonial papers have dubbed it. In my mind there is not the slightest doubt as to the efficacy of the treatment when properly carried out. There is a weak point, however, and it is this. It is almost impossible to tell from the physical properties of a sample of bile whether it is going to give protection or not. Those that come near to possessing the properties laid down by Koch as essential (to be clear dark green in colour, with white froth and freedom from disagreeable odour), have often proved of little use while samples of which I have been suspicious, notably those of a brownish tinge, have given splendid results. So that while I am convinced that an immunising power is possessed by the bile taken from some animals dead of rinderpest, this power may be wanting, and it is so far difficult or impossible to tell on examining a certain sample whether it possesses immunising properties or not.

NINTH INTERNATIONAL CONGRESS OF HYGIENE AND PUBLIC HEALTH.

FROM the Secretary-General of this Congress, which is to be held in Madrid from 10th to 17th April, we have received for ourselves and our readers an invitation to be present. Dr. Amalio Gimeno, in his letter of invitation, states that the Congress and the Exhibition to be held concurrently therewith, are to be under the patronage of the King and Queen

Regent of Spain, and this in itself will give a tone and a distinction to the whole thing. The list of the General Committee is very extensive, and embraces the names of men eminent in every department. We notice the names of all the well-known Spanish physicians, surgeons, professors, and lecturers, and there are besides many military officers, well-known journalists, and a few clergymen, including the Archbishop of Madrid. A programme of *fetes*, excursions, and receptions is being prepared, and it is evident that our Spanish friends are going to do all they can to make their guests and visitors comfortable, and render their visit to Spain not only highly instructive but interesting from many points of view. April is, perhaps, the best month of the whole year for a visit to Spain, as all the freshness of spring can be enjoyed with none of its drawbacks. We expect that excursion tickets at moderate fares will be provided by Messrs. Cook and Messrs. Gaze for intending travellers, and we heartily recommend a journey through France to Spain, "the daughter of the sun," to all our readers who can spare the time and the money.

Cases.

CASE OF SUPPURATIVE NEPHRITIS (PYELO-NEPHRITIS) IN A COW.

BY S. CHAMBERS, ESQ., M.R.C.V.S., HUDDERSFIELD.

A SUPPURATIVE inflammation of the kidney is not, so far as I have had experience, or have read, a very common condition, and it may, therefore, not be without interest if I place on record the following case of it that recently came under my observation. I regret that as I was only called in when the animal was quite past all treatment I am unable to give any lengthened account of the symptoms manifested during the course of the disease. What I learnt from the owner was that the cow had calved a couple of months previously, giving birth to twins, and that some little time after she began to show signs of illness.

The appetite got capricious, and finally ceased altogether. The urine was turbid, and often bloody, sometimes containing small blood clots. The coat was staring, rumination was lost; the was emaciation and weakness especially at the posterior part of the body. Altogether she showed every sign of suffering from a grave affection referable to the kidneys, and

the recent calving suggested that it might be of a septic nature due to absorption from the urogenitary tract.

Her state when I was called in was such that I had not any hesitation in at once recommending slaughter. This was at once carried out, and on examining the kidneys I found my suspicions amply verified. The bladder and ureters were inflamed, and contained a purulent material. The pelvis of the kidney was in a state of violent inflammation, and in the calices and in the medullary part of the kidney were numerous foci of suppuration; one could not call them abscesses, because they looked more like necrotic patches infiltrated with pus, and readily broke down on scraping. So far as one could see, the cortical portion of the organ was little, if at all, affected. There are two paths by which the kidney may become infected so as to be the seat of a suppurative nephritis, one being by little septic plugs coming from the heart, the other is from the urogenitary tract. In the latter case the medulla of the kidney is principally affected. I have very little doubt that this was the method of infection in the above case. I ought to add that both kidneys were affected, and I sent one of them to Principal Williams, who was kind enough to make an examination of the organ, and writes that he quite coincides with my views on the case.

STRONGYLUS ARMATUS. RECURRENT COLIC. DEATH.

BY X.

I WAS recently asked by a friend, a medical man, to assist at the *post-mortem* examination of one of his horses. The animal was a six-year-old, well-bred hackney gelding, and had been purchased six weeks previously. A few days after its arrival it fell ill with influenza, but had only a mild attack, and recovery took place in a couple of weeks. It did a day or two's work, and was then seized with an attack of colic, lasting twelve hours, relief being obtained by the usual remedies. The animal never worked again, as attacks of colic followed each other at intervals of a few days until its death. The colic was sometimes of an extremely painful nature, at other times of a mild type, expressive of continuous mild pain, and accompanied by obstinate constipation.

Anodynes, and oleaginous aperients, and enemata was the treatment. A veterinary surgeon who had seen the animal a few times, expressed the opinion that there was some obscure

bowel lesion, perhaps nervous, perhaps an organic change, connected with the attack of influenza. Bots were the cause assigned by the "stable," and was accepted by the owner as the real ætiological factor. I had not seen the case during life because I was away, and only returned the day before death took place. On opening the abdomen, the cavity was found to contain a couple of quarts of straw-coloured fluid. The intestines looked healthy, though rather paler than normal. I was surprised at their appearance, and I suspected a calculus, and was prepared to find enteritis, and probably peritonitis, from rupture. In spite of the constipation, the contents of the colon were quite soft as judged from handling that bowel.

The stomach was first examined, and on opening it a large quantity of bots were found adhering to its walls, to the great delight of the coachman, and to the evident satisfaction of the doctor, who was quite incredulous when I assured him that they had had nothing to do with the death of the horse. On opening the intestines the small bowels presented nothing abnormal, but when the colon was cut into the semifluid contents found in the first portion of this gut were seen to be mixed with blood, and yet there was an absence of inflammatory lesions. There was no thickening or any great discolouration of the mucous membrane, and no catarrhal or croupous products. Some portions were anæmic and some hyperæmic and dark on the internal surface; the serous coat was, as I have said, healthy in appearance (except for some *post-mortem* staining here and there). When the owner of the horse, who now thought that the disease was referable to the bowel rather than the stomach, asked me to explain the blood-stained condition of the fæces, I confess that I had not an answer ready. On thinking over matters for a few minutes, however, I instituted a search for the mesenteric arteries. They are usually torn or cut off from the aorta when taking out the bowels. After some little manipulation I succeeded in finding them, being helped by their thickened walls and found them to be the seat of numerous aneurysms.

I was then easily able to explain the condition of the bowel by saying that bits washed off from the clot in the aneurysms had formed carbolic plugs in the blood vessels giving rise to infarctions there and consequent hæmorrhage.

On taking the vessels home and examining them we found in the laminated clots that occupied the aneurysms numerous specimens of the strongylus armatus. They were about

three-fourths of an inch long and quite white (not red as a writer in the *Veterinary Record* states they usually are).

This was a very satisfactory termination of the affair. The owner, who was very much interested in the cause of the animal's illness, declared that if he had made the *post-mortem* himself the bots would certainly have been assigned as the source of all the mischief, and nothing would ever have persuaded him but that they are often fatal to their host.

Army Veterinary Department.

Edgar B. Bartlett, Gent., to be Veterinary-Lieutenant, on augmentation. Dated 2nd February, 1898.

Veterinary-Lieutenant E. Wilkinson joined for duty at Woolwich on 3rd inst.

Veterinary-Lieutenant H. B. Knight has been granted six months leave of absence from India on recommendation of a Medical Board.—*London Gazette, dated 1st February*, 1898.

At the Levée held at St. James's Palace on the 21st February by H.R.H. the Prince of Wales, Veterinary-Colonel F. Duck, C.B., was presented by the Commander-in-Chief on appointment as Director-General, Army Veterinary Department, after which Veterinary-Colonel F. Duck presented the following officers:—Veterinary-Major D. C. Pallin on promotion; Veterinary-Lieutenants J. S. Wood, W. A. Wood, D. Bolton, and R. C. Moore.

Veterinary-Lieutenant J. A. B. McGowan joined at Aldershot for duty on 21st February.

The undermentioned veterinary officers arrived from India on completion of tour of service in that country:—Veterinary-Major J. Bostock, 12th February; Veterinary-Lieutenants C. Rose and H. J. Axe, 17th February.

Proceedings of the Veterinary Medical Societies, etc.

IRISH CENTRAL VETERINARY ASSOCIATION.

THE usual quarterly meeting was held in the Hammam Hotel on Tuesday. February 15th. Those present were Mr. D. Fulton, M R.C.V.S., Mullingar; Mr. Freeman, M.R.C.V.S., Dublin; Mr. Cleary, M.R.C.V.S., Mullingar; Mr. Watson, M.R.C.V.S., Boyle; Mr. Byrne, M.R.C.V.S., Roscommon; Mr. Dawson, M.R.C.V.S., Cavan; Mr. Richardson, M.R.C.V.S., Dublin; Mr. Winters, M.R.C.V.S., Limerick; Mr. Howard, M.R.C.V.S., Ennis; Mr. Beckett, M.R.C.V.S., Dublin; Mr. Wade, M.R.C.V.S., Celbridge; Mr. Watson, M.R.C.V.S., Dublin, Hon. Secretary and Treasurer.

Mr. D. Fulton, President, occupied the chair.

The SECRETARY having read the minutes of the last meeting held in Ballinasloe, October last, they were duly signed.

On the proposal of Mr. WATSON, Dublin, seconded by Mr. WINTERS, Limerick, Mr. D. Fulton was re-elected President; as Vice-President Mr. Watson, Boyle, was proposed by Mr. WADE, Celbridge, seconded by Mr. FREEMAN, Dublin, and carried unanimously. Mr. BYRNE, Roscommon, proposed, and Mr. CLEARY, Mullingar, seconded, that Mr. Watson, Dublin, be elected as Hon. Seeretary and Treasurer.

After a lively discussion in which Messrs. WATSON, Boyle, FREEMAN, Dublin, WINTERS, Limerick, HOWARD, Ennis, CLEARY, Mullingar, WATSON, Dublin, WADE, Celbridge, took part, as to the formation of the Executive Committee, the following were elected :—Messrs. Byrne, Roscommon; Freeman, Dublin; Dawson, Cavan; Winters, Limerick; Nolan, Parsonstown; Howard, Ennis.

Messrs. Healy (Middleton) and Dunn (Dublin) were proposed by Mr. WATSON (Dublin) and seconded by Mr. WADE (Celbridge).

Carried unanimously.

The balance-sheet was adopted unanimously.

The CHAIRMAN then called on Mr. Freeman (Dublin) to read his paper on rabies :—

Mr. President and gentlemen,—When attending the inaugural meeting of the Central Veterinary Medical Association, held last October, in Ballinasloe, I was asked and promised to read a paper at this, our first meeting in Dublin, and the subject I have chosen is that of rabies, chiefly because it is a disease much, I regret to say, in strong evidence at the present time, and the methods adopted for its eradication much criticised. The limited time at my disposal has prevented me giving you a long paper, but I have tried to make it practical, and I trust useful, and that the assembled members will consider it worthy of discussion. Rabies may be defined as a specific, virulent disease, mostly seen in the canine species, and characterised by an alteration in normal habits of the dog. This definition may sound odd, yet it is expressive when the symptoms are noticed.

As regards the history of rabies, its antiquity is undoubted, and scarcely any country is free from its ravages excepting (according to Fleming) Australia, New Zealand, Van Diemen's Land, the Azores, and St. Helena, as well as the Island of Maderia, nor has it been seen in Africa. According to present statistics rabies exists to a much greater extent in England and Ireland than the general public are aware of, and, according to the Board of Agriculture returns in England, the number of cases of rabies for the past four years were, for the 51 weeks :—

In 1894	..	..	Dogs	233	..	..	other animals	10
„ 1895	..	..	„	666	..	..	„ „	55
„ 1896	..	..	„	436	..	..	„ „	22
„ 1897	..	..	„	155	..	..	„ „	16
Four Years' Total	..		„	1490	..	..	„ „	103

In Ireland, according to the returns of the Veterinary Department for the 51 weeks :—

In 1894	..	..	Dogs	518	..	..	other animals	246
„ 1895	..	..	„	553	..	..	„ „	201
„ 1896	..	..	„	482	..	..	„ „	196
„ 1897	..	..	„	391	..	..	„ „	105
Four Years' Total	..		„	1,944	..	..	„ „	748

From the foregoing figures it will be observed the very great number of cases of rabies in Ireland compared with that of England, and the marked decrease for 1897 shows plainly the advantage of preventative measures which I intend to enter more fully into later on.

The symptoms of rabies are marked by striking peculiarities. In the dog the earliest symptoms observable are that of dulness, and to a close observer it presents a peculiar appearance, that of unrest; in fact, the dog is not easy in any one position or place, always on the move, here, there and everywhere, hiding in corners, resting for a moment, then up again, and should it meet with any obstruction, imaginary or otherwise, it will snap; sometimes as if it had a lucid turn, it appears friendly, and displays more than ordinary affection, such as licking the hands; this affection may quickly disappear and the dog display anger, but yet be under the control of the owner or attendant's voice. As the disease advances the appetite becomes depraved, and if in the house, it will eat up carpets, curtains, mats, coal ashes, and such like, and lick the fenders; it may suddenly cease this calling, and snap at imaginary objects, getting wildly excited. Then you notice a thick, viscid saliva coming from the mouth. This saliva appears in greater abundance after a sharp attack of delirium, and should the dog be in no way housed up, it may rush out and wander for miles. And in its tramp it has been clearly noticed a rabid dog will not go out of its way to attack; but anything obstructing its career it will snap and bite. A rabid dog has no dread of water at any period of the disease, nor does it produce horror, fear or aversion. A rabid dog appears always to be thirsty, and in the earlier stages can lap water freely; but as the disease advances, the throat gets paralysed, and deglutition becomes impossible. In the earlier stages the appetite is fanciful. Sometimes it eats fairly well, other times fastidious, and, again, it may be voracious, eating indiscriminately all sorts of foreign bodies, even its own fæces, and various parts of its own body. The condition of the mouth of a rabid dog after a long march, is very characteristic; the saliva is sticky and adhering to the jaws and generally befouled with foreign matter. Should the dog be confined in a kennel during the illness, the bark once heard is rarely forgotten or the symptoms evoked by teasing with a stick or broom. The changed bark of a rabid dog is supposed to be caused by alterations taking place in the larynx, which causes the voice to be hoarse and crackled, not at all unlike a child with croup; the preliminary bark is of a somewhat high pitch with extended mouth, and this is continued with many howls of much less intensity, which seem to come from deep down in the throat, nor does the mouth close after each howl or bark as in the healthy dog. Sensibility in rabid animals appears almost lost, or at least the dog and other animals appear to mutilate themselves without any outward appearance of pain, consequently it is a sign to be aware of when a dog mutilates itself. The attack of a rabid dog is always silent, and if attacked and badly wounded in return, it never winces or evinces pain. The duration of an attack of rabies is usually from three to five days, the more excessive delirium the sooner death ensues, the cause being exhaustion and paralysis. In the dumb form of rabies we get paralysis of the lower jaw, the larynx also being involved; in this condition the dog remains with its jaws pendant, mouth opened, tongue flaccid, swollen, and generally tinged brown, with stringy, glue-like saliva; if the throat be examined it is usually inflamed; in this condition the dog can neither eat, drink, or bark, nor is the excitement noticed as in the furious form; it is calculated that fully 20 per. cent. of rabid dogs are attacked with this form, and it is quite a common thing for a veterinary surgeon to be called in to see a dog suffering from this form of rabies the owner being under the impression a foreign body existed in its throat. The symptom of rabies in a cat though rarely seen are very similar to those of the dog, only

if possible intensified and its tiger-like character renders it very dangerous of approach, owing to the face being the chief part of the body for attack. In the horse and ass the most intense excitement exists, gnawing at the wood, rails, manger, and even trying to tear up the flooring with its teeth and mutilating various parts of the body. Salivation in the horse and ass I have not noticed more than when seen crib biting or chopping at the manger when being dressed. In cattle the symptoms are not at all unlike stomach-staggers, dashing headlong at all sorts of obstructions as if blind and tearing up the ground with their horns ; this is followed by paralysis of the muscles of locomotion. In sheep the most noticed symptom is butting, and should you present a stick at them, they will take it in their mouth and nibble it just like a stallion. In the goat the same symptoms are most noticed ; in the pig you get the frothing at the mouth with intense excitement and violent attacks on everything in its way, but paralysis very soon supervenes rendering it harmless. In poultry the symptoms would remind one of a country jig. Jumping in all directions, pecking at other fowl and performing all sorts of antics : exhaustion, convulsions, and paralysis very soon terminates existence. In most cases of rabies death generally takes place from two to seven days but it greatly depends on the degree of excitability. Undoubtedly many dogs are slaughtered as suffering from rabies, which are not rabid. Perhaps the most common disease mistaken for rabies is epilepsy, where as in rabies we get no epileptic seizures, sore throat, angina, gastritis, colic, distemper, tetanus, and the pressure of worms, the rentestomes and the ecchinococcus. To distinguish rabies from other diseases, its peculiarities should always be remembered—nervousness, irritability, and hallucinations, peculiar bark, depraved appetite, biting, difficulty of swallowing, and paralysis. With these in your mind's eye, diagnosis of rabies from other diseases I do not consider difficult. The period of incubation, from my own experience, after direct inoculation may be put down at from 14 to 28 days, but in many cases it is indefinite, and some authors say it may be 12 months. As regards the post-mortem—this a very vexed question—are there any real reliable lesions? My opinion from the very many cases that have come under my notice is, there are not. Undoubtedly I regard the presence of foreign bodies in the stomach af all sorts and descriptions as most suspicious, also the presence of pasty saliva adhering to the lips, abraded tongue. broken teeth, inflamed fauces. With these present and a history of the case, although not seen during life, I would be satisfied in giving my opinion that rabies did exist ; yet in many cases where I observed all the symptoms of rabies during life and on post-mortem examination found an absolutely empty stomach, no inflammation, no injury to tongue, teeth, pharynx, in fact, negative appearances, yet the test inoculation proved rabies did exist. The post-mortem, I am of opinion, cannot be relied upon ; yet in cases where persons have been bitten we are expected to form an immediate opinion and I think when any of the so-called lesions are observed we are justified in stating rabies did exist, and then prove it beyond doubt by inoculation, but in the meantime let the patient undergo the Pasteur treatment and yet again, should the inoculation test prove unsatisfactory and the Pasteur patient develops hydrophobia, another serious question arises, and *vice versa*. As regards the inoculation test, I consider it absolutely necessary to inoculate from four to six rabbits, remembering that some men and animals always prove refractory to any virus, but where more than one animal is inoculated and the symptoms are developed you are on the safe side.

With regard to the suppression of rabies, until quite recently, little if anything was done owing to the inaction of the various local authorities in adopting measures of suppression, however with the Rabies (Ireland) Order and the Muzzling of Dogs (Ireland) Order, 1897, the law at present directs

compulsory muzzling of all dogs, Notification of the disease by the owner, inspection, slaughter of the diseased, also of those bitten by rabid dogs and isolation of the suspected—all these things are now required to be carried out by the above orders, whereas before should rabies exist in the district of one local authority and they adopted the muzzling, the local authority of the adjoining district invariably did not, with the result that the methods of dealing with the suppression of rabies became the laughing-stock of all sensible people. As regards muzzling, if carried out properly, it is the best means of ridding the country of rabies, I admit it causes the owners of dogs at first very great inconvenience; but was any reform of any kind carried out satisfactorily without inconvenience? and certainly the muzzling of dogs has called forth vengeance and all sorts of abuse on the framers. And what does it all amount to? Simply a little patience and the supplying of a dog with a well-fitting muzzle. Of course people will say dogs were never intended to wear muzzles, but necessity knows no law, and I contend that dogs, after a few days, do not mind wearing a good-fitting muzzle. Of course I know this will bring forth a good discussion, and that is what I want But are we to keep on continually muzzling? If, after say twelve months' rigid muzzling we find no cases of rabies, then what is the best way to prevent a recurrence of the disease? Well, first of all, keep the Foreign Dogs Importation Order active. Anyone requiring to bring in a dog let him supply the authorities with his name and address, and particulars of where the dog is to be located; then let the authorities grant a licence, specifying certain conditions, such as muzzling for three months, notifying change of address, etc. With such restrictions, detection and spread of rabies will be prevented. But once the muzzling order is removed dogs will become as numerous as ever, *i.e*, the uncared for dogs and ownerless curs which are really, as far as Ireland is concerned, the starting point for the spread of rabies. What we really want is that every dog should have a registered badge and number attached to his collar (same as sample which I submitted and suggested some years ago to the local authority of the Rathdown Union as a substitute for muzzling), showing a license had been taken out and that badge should further bear the name and address of the owner, and any dog found at large without such collar, with badge, label, or pendant attached, should be dealt with as dogs are when the muzzling order is in force, *i.e.*, when found without a muzzle. The question arises, how is the registration and licensing to be enforced? as I am of opinion the present method of doing so is inadequate; and from my little experience I think I am within the mark in saying that 20 per cent. of the dogs in the country are not licensed. Could not the registration and licensing be entrusted to some other body than the Excise, say the police or the local authority, and apply the proceeds to the reduction of the rates? By doing so all the residents in a district would have an interest in seeing that their neighbours who owned dogs duly take out a license; and again, have the registration lists posted up in various places, similar to the voters' list, and by so doing people could see at a glance whose dogs are registered and whose are not. This would have the further advantage that those who care for their dogs would co-operate every way in carrying it out, instead of, as in the present muzzling order, do all in their power to evade it when they see a chance of doing so with impunity. For it seems to them, rightly or wrongly, a hardship and an injustice that those who take out their licenses duly and look after their dogs properly should be put to trouble and inconvenience because of those who neither do the one or the other.

This plan would, of course, require an alteration in the law of licensing as it at present exists. But I do not think so simple and feasible a measure would be very difficult to get through Parliament, and if once adopted and carried out properly, I consider it a practical and easy way of dealing with rabies.

The CHAIRMAN invited the members present to discuss the paper.

Mr. WADE (Celbridge) after congratulating Mr. Freeman (Dublin) on his valuable paper, proceeded to discuss the question of rabies. He adverted to the absence of the disease in Australia, and dwelt on the marked tendency displayed by colley dogs to the contraction of rabies. He stated his reasons as to their greater liability, and then went on to consider the question of the spontaneous origin of the malady, and the possibility of stamping it out.

Mr. WATSON (Boyle) reviewed the symptoms of rabies as they manifest themselves in animals other than the dog. He pointed out the difficulties in the way of sending brains of diseased animals to the veterinary department, to have the opinion of specialists thereon He discussed the symptoms, incubation period and *post-mortem* appearances of rabies.

Mr. WINTERS (Limerick) thought that an increase of the dog-tax, and a more rigid enforcement of the muzzling regulation, would within certain limits act as an effective preventative of rabies.

Mr. HOWARD (Ennis) spoke on the possibilities of the eradication of the disease, and on its *post-mortem* lesions.

Mr. BYRNE (Roscommon) congratulated Mr. Freeman (Dublin) on his very valuable paper. He (Mr. Byrne) expressed his opinion that the symptoms of rabies and stomach-staggers bore a great similarity, which often led, he thought, to wrong diagnosing. As far as the lecturer went, to the best means for its eradication, he heartily supported him. Reviewing the theories as to the problem whether there are any definite lesions in the animal structure due to rabies he expressed doubts. In referring to the spontaneous origin of rabies, its origin must be given before it is finally refuted. Dwelling on the subject of specialism, he threw out the suggestion that the Government ought to found lectureships for the advancement of knowledge in veterinary science.

Mr. CLEARY (Mullingar) gave it as his opinion that the average incubative period of rabies was from 14 to 28 days, though it might extend to six weeks, or longer. He also dwelt on the subject of muzzling.

Mr. WATSON (Dublin) discussed the mode of death in rabies. Exhaustion and paralysis usually proved to be the proximate causes, due to the pressure of toxines in the blood. From experiments on animals he believed it was determined that the average period of incubation was 19 to 21 days. In his opinion castration was a valuable prophylactic measure, inasmuch as it considerably diminished the virility of animals. He expressed doubts as to the existence of any irrefragable *post mortem* appearances in the brain, the cord, or other structures, characteristics of the disease under discussion.

The lecturer having suitably replied to the different speakers, remarked in conclusion that Prof. O'Sullivan, F.I.C.D., was the specialist on the pathology of rabies.

The SECRETARY announced that the next meeting would be held in April next at Limerick, when Mr. Winters (Limerick) will read a paper.

The proceedings then terminated.

CENTRAL VETERINARY MEDICAL SOCIETY.

The Proposed Affiliation of Veterinary Medical Societies.

THE CHAIRMAN: It will be in your recollection that, by your authority, I attended a meeting of delegates of veterinary medical societies held at Leeds on October the 29th last,—a meeting convened to consider the subject of the affiliation of the different medical societies to one central organisation. I presented my report to the council, and I have a copy of it here. The matter has been discussed by the council and, unless you desire it, I will not read the

report. There are notices of motion on the agenda paper in the names of Mr. Barrett and Professor Macqueen "That the matter be further considered."

Mr. BARRETT said some mistake had been made. His notice of motion had reference to the society being represented at the International Hygiene and Demography Congress—a subject already disposed of.

Professor MACQUEEN said he, too, had not undertaken to deal that evening with the subject of the proposed affiliation of the societies. He had a recollection that this matter had been previously discussed, but beyond a sort of distant recollection he did not remember anything specially about the subject. He believed that the subject was to be referred to the general meeting of the society, but he certainly had not undertaken to make any proposition.

Professor MCFADYEAN: What was the recommendation of the council?

The CHAIRMAN: I think the business of the council consisted in receiving and adopting my report. So far as my memory serves me, it did not get the length of making any recommendation.

The HON. SEC. read from the minutes of council meeting on the 2nd December:

> Mr. Barrett moved, and Professor Macqueen seconded, after Mr. Dollar had read his report of the delegates' meeting at Leeds: "That this council recommend to the general meeting in January next that the matter be further discussed." Motion put by the president to the meeting and carried unanimously.

Mr. BARRETT pointed out that this did not bind Professor Macqueen or himself to introduce the subject at the January meeting of the society. The council, from Mr. Dollar's report, considered the Leeds conference most unsatisfactory. Nothing definite was done at that conference.

The CHAIRMAN said that if the meeting did not desire to further discuss this matter, it only remained for him to pass to the next business.

Professor MCFADYEAN: I suppose it is permissible to give effect to the recommendation that the subject be further considered. I beg to move "That it be remitted *sine die* for further consideration."

Mr. HUNTING: I don't know why, when we have such a big meeting as this, we should remit a thing *sine die* that has been before us for months.

The CHAIRMAN: I would remind you that we have a proposition before us by Professor McFadyean. What is your object in rising?

Mr. HUNTING: To move an amendment.

Professor PENBERTHY: In order to have the pleasure of hearing Mr. Hunting I shall second the original motion.

Mr. HUNTING: This subject has, I think, been already sufficiently discussed amongst individual members of this Society and by the profession, and we are all of opinion that it would be a good thing if the whole of the societies were affiliated. The chief difficulty in the way of this is the financial one, but that may be left to the consideration of another meeting. In the meantime it would help the movement if we passed an abstract resolution in favour of the thing being brought about. One or two societies have, I think, expressed that opinion, and I think we should follow their example. I move as an amendment, therefore, "That the Central Veterinary Medical Society approve the proposed affiliation of all the local societies with the National Veterinary Association, and hope the financial difficulties may be overcome."

Professor MCFADYEAN: May I be allowed to ask a question?

The CHAIRMAN: Certainly.

Professor MCFADYEAN: Are we to understand by affiliation simply the union of the societies now existing, or a sort of dissolution of the National Association, and the substitution of these affiliated societies for it. Is the dissolution of the National Association on its present basis intended?

Mr. HUNTING: Certainly not. The only thing, I think, that would be necessarily altered in the constitution of the National Association would be one of the rules relating to the entry of members. An existing rule requires compliance with certain conditions, and the payment of 10s. per annum to secure membership. There might in lieu of this be two methods of entry: one directly by paying 10s., and the other indirectly by paying a smaller sum through an affiliated society. But this is a matter of detail.

Professor MCFADYEAN: Almost all the members of the National Association are also members of one or other of the local societies; and this project does seem to me to involve the dissolution of the National Association, and the erection of a new organization with a different constitution. I do not think any of us would continue to pay 10s. to the National, when we could continue to be members of the association by paying only 2s. 6d. or 5s. The scheme appears to me to be financially impossible, and I do not agree with Mr. Hunting that everyone considers it desirable. I for one do not think it is desirable.

Professor MACQUEEN: I rise for the purpose of seconding Mr. Hunting's amendment. I happen to know something about this proposed affiliation; and I do not share the opinion of Professor McFadyean that the scheme is impossible, either financially or otherwise. Nor do I agree with him in thinking that the financial basis of the proposed affiliation is not likely to be built upon. I have gone into the particulars—the figures regarding the membership of the various societies, and I must say that, at a very small sum per annum, it will, in my opinion, be possible to carry on the National Association. As to affiliation bringing about the dissolution of the National Association, I would say that the object sought is an incarnation rather than dissolution. At the present time the National Association is only national nominally, but if the various local societies were affiliated with if, the representatives of those societies meeting once a year, and oftener if need be, to discuss any important question—not political—then the National Association would become really a national combination or federation. I must say that, although I voluntarily seconded the amendment, I am not at all pleased with the Leeds meeting of delegates. That meeting, apparently from all accounts, was a fiasco. Although I had collected a great many facts concerning the various societies as to membership, subscription, entry fee and so on, facts set forth in papers which I entrusted to my friend, Mr. Hunting, yet I regret to say that I see no result from this collection of data. The financial question is, I admit, a difficult one, but I must say from my knowledge of the number of effective members of the various existing societies, this difficulty is not one that cannot be surmounted. I would willingly give particulars but I am in the unfortunate position of having parted with the information I collected for nearly two years, having placed it in the hands of Mr. Hunting.

Mr. HUNTING: A subpœna from one of the higher courts prevented my being at the Leeds Conference. Otherwise I should certainly have attended.

Mr. BARRETT: We shall, I think, act very uuwisely to-night if we deal with Mr. Hunting's motion. I say this because at present we know nothing about this matter. No financial results have been placed before us. We do not know what we are asked to subscribe. We know nothing of the financial status of the National Association. Hence, to pass Mr. Hunting's amendment now would, I think, be very injudicious. I cannot help thinking that the object of the National Association is to seek the aid of the various local societies so that it may be sustained financially. It is well known that th financial condition of that society is not very satisfactory.

Mr. HUNTING: What society?

Mr. BARRETT: The National.

Mr. HUNTING: You are entirely wrong; absolutely wrong.

Mr. BARRETT: If the National Association is not in need of money, why is it so anxious to have an affiliation with it of the various local societies?

Mr. HUNTING: It is in no need of money, it has plenty.

Mr. BARRETT: I suggest that the whole matter should be carefully considered by the Council at its next meeting. At present we lack necessary information, and therefore I refuse to vote now for the amendment.

The CHAIRMAN: I feel in a somewhat delicate position on this occasion because I am not only your President and in tke chair, and am therefore bound to preserve absolute impartiality between the supporters and the opponents of this scheme, but because I also had the honour of serving as your delegate at the Leeds conference and thus obtained an insight of this question which, perhaps, places me in a better position to judge certain of its aspects than many gentlemen present. I feel so strongly, however, the necessity of at least endeavouring to assume a judicial attitude, that before I make any remark whatever I ask for an expression of the feeling of Mr. Hunting, I should not desire to make any remark were it not that I think the Society should be informed of certain facts before coming to a decision. I place myself in the hands of Mr. Hunting and ask whether it will be agreeable ro him that I should state certain facts within my knowledge. If Mr. Hunting has the slightest objection to my adopting that course, if he thinks I should in any way prejudice the cause he has at heart, I shall refrain from speaking. But, as I say, I am not only your President and in the chair, but I have also been your delegate at the Leeds gathering.

Mr. HUNTING (to the Chairman): I am always pleased to hear a statement of facts, and never more pleased than when such statement is made by our own present president.

The CHAIRMAN: Well, I should say I attended at Leeds as you desired me. Five Societies were represented there: The Central, the Southern Counties, the Yorkshire, the Border Counties, and one other Society. The following resolutions were come to:—

(1) That the local veterinary medical societies should preserve their present independence as to meetings, discussions, and subscriptions and agree to join and support the National Veterinary Association on questions of general professional importance;

(2) That all effective members of the affiliated societies should become, by virtue of affiliation, effective members of the National Association without further individual subscriptions;

(3) That to meet the expenses each affiliated society should pay to the National Association a compound subscription equalling the sum per head fixed in accordance with the membership strength of the affiliated societies.

I am afraid I am reading to you the bases of discussion and not the actual results reached.

Colonel KETTLE: You will find them in *The Veterinarian.*

The CHAIRMAN: They were published in *The Veterinary Record.* I find I must rely upon my memory to a great extent. I think from this I can tell you what was done. The first clause was amended in this way: that the scope of the proposed new society do not extend to the internal politics of the profession. The second suggestion that all effective members of the affiliated societies should become, by virtue of affiliation, members of the National Association, without further subscriptions, was carried. The third suggestion was amended before adoption at the instance of Mr. Shipley, who proposed that 2s. 6d. per head be pald by each secretary. A fourth motion adopted was that each affiliated society should be represented by two members on the Council

of the National Association; in other words, the council or responsible committee of the National should consist of delegates from all affiliated societies. The present income of the National was approximately stated at £150, while the estimated income under the proposed scheme would, at 2s. 6d. per head if 700 members joined, be only £87. Under these circumstances the National would lose £63.

Mr. HUNTING: And gain 700 members.

The CHAIRMAN: Gain 700 members and lose £63.

Mr. HUNTING: Cheap!

The CHAIRMAN: It was mainly with regard to this financial aspect of the question that I desired Mr. Hunting's permission to make a statement. I would point out that to supply the National Association's loss would require a subscription of at least 5s. per head.

Mr. HUNTING: That is an opinion.

The CHAIRMAN: No, I think it is a fact.

Mr. HUNTING: I think it is a matter of opinion.

The CHAIRMAN: It is a fact that 700 members, subscribing 2s. 6d. each, would only yield £87, whereas the present income of the National Society is £150. Hence there would be a deficit of £63.

Mr. BARRETT: I am not desirous of opposing this scheme; but is it not a fact that the resolutions adopted at the conference were carried by gentlemen who were not really delegates of societies, and that, therefore the proceedings were irregular?

The CHAIRMAN: It is a fact that, with the exception of the last motion, the propositions were voted upon by persons who were not delegates, and that the majority of the meeting consisted of persons who were not delegates.

Mr. BARRETT: And who had no authority to vote?

The CHAIRMAN: And who had no authority to vote.

Professor MCFADYEAN: Is it not a fact that the National Association cannot be reformed out of existence against its own will, and that this scheme has never been considered by the National?

The CHAIRMAN: I believe that is so.

Professor MCFADYEAN: Well, that being so, I think we should allow Mr. Hunting another opportunity of speaking, because we know, on the authority of Professor Macqueen, that he is in possession of a long string of undoubted facts to show that this scheme is not very difficult, but comparatively easy. Mr. Hunting may have a statement of these facts in his pocket; if not, he doubtless has them in his mind. I do not think he will get a better opportunity than this of stating his case. We are all in a frame of mind to be convinced of the feasibility of the scheme. Therefore, I move that you favour Mr. Hunting with a rehearsal of these facts.

The CHAIRMAN said they would be pleased to hear Mr. Hunting. He did not ask him to make a statement, but if he volunteered to do so, his statement would, no doubt, prove interesting.

Mr. HUNTING: I bow to the ruling of the Chairman.

The CHAIRMAN: I gave no ruling.

Mr. HUNTING: Only a suggestion.

The CHAIRMAN: No, I have not made any suggestion whatever.

Mr. BARRETT: We should enjoy Mr. Hunting's speech more if Professor Macqueen would first unfold his scheme. Then we should ascertain whether they are in complete harmony, which is very doubtful.

The CHAIRMAN: I have not ruled.

Mr. HUNTING: I would not stop the meeting from passing to more nteresting work, and I am perfectly sure we all understand the subject horoughly. You will notice that my amendment does not bind you to any pecuniary arrangement. That is for further consideration. All we want is

for this Society to express its opinion that affiliation is a good thing. I really understood we were all agreed in that.

The CHAIRMAN: I must now, as your Chairman, and to prevent the Society drifting into what may prove a financially unsafe position, point out that any sound business man, before taking a certain line of action, invariably first considers the cost of the financial position involved. This, instead of being the last thing to be considered should, in my judgment, be the first.

Mr. HUNTING: I say a man in contemplating the formation of a new society does not consider the financial question first. He first considers whether it is desirable and practicable to form the new society, and then he considers the matter of finance.

The CHAIRMAN: I not wish personally to enter into any discussion. I refrain from doing so. There is a motion and an amendment before the meeting. Does any member desire to say anything further on the point?

Professor MACQUEEN pointed out that a letter from himself on the subject of the affiliation scheme had been referred to the Council of the Society, who had considered the matter and appointed delegates to attend the Leeds meeting.

Mr. HUNTING said the matter had been repeatedly discussed.

Professor MACQUEEN: Several gentlemen have asked me across the table to explain the scheme. Now, it must be in the recollection of the reader of every veterinary journal what the proposed affiliation is. The original circular concerning the project was issued more than two years ago. It arose from a suggestion made by Mr. Wartnaby at a dinner of the Central Veterinary Medical Society. The circular was issued in 1895, and it has been since discussed by every country veterinary medical society in the kingdom. I have a reply from every society, or rather I had a reply until I handed over the documents to Mr. Hunting. I can assure you that, with one exception, every veterinary society deemed the proposal worthy of further consideration. They regarded it in a favourable light. In that sentence I include the Central Veterinary Medical Society. When I received the answers, I did not care to push the matter too far, because I then happened to be secretary to the National Association, and I desired not to complicate matters by acting in my official capacity. The proposal originated from myself as an individual member of the society, who thought with Mr. Wartnaby that some benefit, some professional good, would accrue from affiliation. I am pleased to say that, with a solitary exception, the societies thought so, too, and I am only sorry now that I did not go on with the scheme. With respect to the meeting at Leeds, I thought I had better not attend, lest it might be considered I was desirous of thrusting my own views before the delegates. I have no axe to grind, I have no private end to serve. If the profession cares nothing about affiliation, then affiliation is nothing to me. I simply carried out the suggestion of Mr. Wartnaby, and I really think the proposal to affiliate is worth further consideration. If it had not been for that unfortunate hitch, so well reported by our president, I think the Council would have been inclined to take a little more trouble in this matter. I believe I expressed myself in the Council as being disgusted with the meeting at Leeds, and as not disinclined in the circumstances to drop the affiliation scheme. But as Mr. Hunting appears to be in earnest, I should certainly say that this Society, while not committing itself definitely one way or the other, should hold out the right hand of fellowship to the proposal, and consider it a little further. That can do no harm if it does no good.

After further discussion, Professor McFadyean obtained leave to alter his motion by deleting the words *sine die*, and substituting therefor, "that the matter be referred to the Council for them to consider it at their next meeting, and report to the Society."

The amendment was ultimately adopted by 13 votes to 2.

The Proposed Victoria Veterinary Benevolent Fund.

The CHAIRMAN then read the resolutions arrived at by the Council on the subject of the promotion of the scheme of the Victoria Veterinary Benevolent Fund, which resolutions were as follows: (1) That the fund be constituted and named "The Victoria Veterinary Benevolent Fund; (2) that its object be the creation of a fund from which grants can be made to necessitous veterinary surgeons or members of their families; (3) that the various veterinary medical societies be asked to give donations and annual subscriptions; (4) that a general committee be constituted with power to add to its number, to appeal to the whole profession." Those resolutions are now before you for consideration.

Professor PENBERTHY moved the adoption of the report, remarking that he did not think its recommendations needed any argument from him. The whole question had, he said, been discussed before, and there had never been the slightest opposition made to it at a general meeting of the Society.

Professor MCFADYEAN seconded the motion.

The CHAIRMAN: Has any gentleman any remark to make?

As no one rose, the motion was then put and declared carried unanimously.

It was then decided (on the motion of Mr. Hunting, seconded by Mr. Barrett) that the existing committee formed to initiate the sheme should be constituted a general committee with power to add to its number, and to appeal to the profession forthwith.

Mr. VILLAR asked to be allowed to withdraw his name as that of a member of the committee because he was already a member of the Manchester Benevolent Society which, as far as he could see, had always conducted its work satisfactorily. He could not help thinking that there was a spirit of opposition displayed towards that Society, and he was desirous, if he might so put it, of sticking to the old colour.

Colonel KETTLE said that from a report of the last meeting of the Manchester Society he noticed that that Society had an income of about £100 a year, out of which they had only made one grant of £10 in the course of last year. He also noticed that applications made by worthy people, worthy objects of the Society's benevolence, were not acceded to. It was said the Society was not in a position to aid them. Under these circumstances he thought they might fairly claim that the institution they desired to establish would not in any way come in conflict with the existing society at Manchester.

Mr. VILLAR: The bye-laws can be altered,

Colonel KETTLE: I am very glad Mr. Villar has raised that subject because when I was in the chair of that Society it was ascertained that the bye-laws had not been altered, and those bye-laws precluded the rendering of assistance to those who were not members of the Benevolent or, as I should call it, the Defence Society.

Mr. SAMSON: I entirely agree with Mr. Villar's views. I also have belonged to the Manchester Society for many years. I once had occasion to apply to it and it would readily have rendered aid if need were. I believe the existing society has done its work well, and that by an alteration of its bye-laws it will be able to extend the sphere of its benevolence. If we endeavour to form a new society we shall simply be adopting a suicidal policy. If members of the profession have failed to join the existing society in any large number, I am quite sure they will not join a new society.

The CHAIRMAN: I must point out that these recommendations have been already adopted, and I cannot allow any discussion on the scheme. The business before us is the appointment of a general committee.

At the instance of Mr. Barrett, the names of Dr. Fleming, Mr. McCall, junior, Professor Dewar, and Mr. Wallis Hoare were added to the committee.

Professor MACQUEEN thought that if any members present of the original Benevolent and Defence Association did not agree with the views expressed in the report, they should be allowed the opportunity of expressing their opinions.

The CHAIRMAN pointed out that the time for this had passed, inasmuch as the report had been already adopted.

Other names then added to the committee were those of Mr. Thomas Lambert (Dublin), Mr. Matthew Hedley, Mr. Harry Olver, Mr. James Clarke (Cupar Angus), Mr. R. Howard (Thetford), Sir G. T. Brown, and Vet.-Colonel F. Duck, Director General of the Army Veterinary Department.

Exhibits.

Professor HOBDAY exhibited an aged dog (of the Schipperke breed), belonging to Dr. Edward Mozeley, L.D.S., which had been fitted with a set of artificial teeth. He explained that they were taken out daily to be cleaned, a process the cog allowed. They were replaced without any trouble, and the animal ate with them chops, or anything he fancied that came in his way, with the utmost ease.

The professor also showed a small drop bottle, by which he was enabled to administer graduated doses of anæsthetics or prussic acid to dogs. By its means the dose could be dropped well at the back of the animal's throat.

Mr. VILLAR exhibited a polypus, which was, on the preceding day, removed from the passage of a cow. It appeared, he said, to be composed of fibrous tissue, inasmuch as it was very hard. The reason for its removal was that the cow was rapidly approaching the parturient condition, and it was thought necessary to remove it as it offered an obstruction.

Mr. PERRYMAN showed a comminuted fracture of the femur of a young cart mare. The animal, he said, had only been in London two months when it had a fall in the street, and was killed owing to injury sustained. He thought the specimen was interesting by reason of the peculiarity of the skull. There were two enlargements of the base. He made sections. They would perceive that the disease of the bone did not proceed from the teeth. There appeared to be some intrinsic disease of the bone. Another specimen he exhibited he thought interesting on account of its pathological contents. The animal had paralysis of the tail, rectum, and bladder, and was unable to pass fæces, or urine. The horse was kept seven or eight weeks and the water drawn daily. They would perceive a bony growth between the third and fourth lumbar vertebræ.

The CHAIRMAN exhibited the brain of a horse, the right cerebral hemisphere of which had been very much diminished in volume by the persistent growth of a tumour. This was interesting in view of the symptoms that were shown during life. He explained that he was called suddenly one evening to a large cart horse, which was said to have got down and to be incapable of rising again. He learnt that the animal had always been a good worker, and had had apparently good health. It was seen to stagger, and as it walked through the stable the staggering became more and more marked. It became violent when it reached its own stall, leant with its head against the stall for some considerable time, then gave a lurch and fell. He found it lying with rigidly out-stretched legs, and breathing in a very heavy and laboured fashion, and propped back in the stall in a most uncomfortable position. It had a very slow, unbroken pulse, about 34 as far as he could remember, but of good volume. The respirations were most irregular, and sometimes there would be two or three respirations within the space of twenty seconds, and then the

animal ceased breathing for nearly half a minute. As far as he could judge there was a loss of sensation over a large part of the body, which was most marked, however, in the hind limbs and in the dorsal muscles. The lips and the nose were perfectly flaccid. The tongue hung down without the animal having any power to return it to the mouth. The pupils were widely dilated, and the retina was apparently insensible to light. He considered the case was was one of apoplexy; although he did not know that cases of apoplexy in horses had been described, no doubt they did occur. He destined the animal for the knacker's yard. As he turned to leave the stable the animal began breathing in a very violent and stertorous way, but it only lived half-an-hour. He went to the knacker's yard and extracted the brain, damaging it in the process. The case was interesting, as the tumour must have taken many months at least to form, and it showed what an enormous amount of change the brain would undergo provided that change took place with sufficient slowness. So far as he could learn, the animal never exhibited any peculiarity whatever.

Prof. PENBERTHY submitted a specimen which he thought might be of interest. He happened on the previous Saturday to come across a case of tuberculosis of the horse. The case was characteristic to a great extent as far as the disposition of the lesions went, but the lesions were extremely numerous through the lungs. It was this profuseness of the lesions which made the case of some interest. There was no indication of degeneration such as tubercular lesions frequently underwent. Perhaps the more numerous lesions only existed within the last two months of the animal's life. In lesions not degenerate the bacilli were far more numerous in this case than he had ever seen them before.

Mr. HUNTING, explaining a specimen he submitted, said he had never personally diagnosed lameness from the enlargement of the lower end of the splint bone that was visible in the specimen he exhibited, but Mr. Willis had pointed out to him that this condition was always accompanied by a splint an inch and a half or two inches from the bottom. They never got the condition of the small splint bone raised from the shank bones unless they got the splint higher up. It was impossible to understand how the enlargement at the end of the bone should cause any lameness at all.

Colonel KETTLE: What about the lameness in that particular case?

Mr. HUNTING: There was no lameness.

Professor MACQUEEN, in moving a vote of thanks to the exhibitors of specimens, said that the dog which had been shown had not lost all its own teeth apparently. The dog carried with it a fang and also a molar. He did not see the same necessity to provide a dog with artificial teeth as the human subject, and so long as the fangs remained and food was given a dog in small quantities he thought the animal might well do its work. He had frequently felt an enlargement of the inferior ends of the splint bones but he had not yet come across a case in which a horse had been palpably lame from enlarged inferior end of the splint bone.

Colonel KETTLE seconded the motion, which was adopted *nem. con.*

On the motion of Colonel KETTLE a vote of thanks was accerded the Chairman, with which the proceedings terminated.

AN ordinary meeting was held on Thursday, February the 3rd, at the Royal College of Veterinary Surgeons, 10, Red Lion Square, Holborn. Mr. J. A. W. Dollar, the President, occupied the chair, and the Fellows and visitors present were :—A. L. Butters, J. Buxton, J. Bell, J. Baxter, J. K. Bruce, Thos. Burrell, F. W. Dowell, Vet.-Lieut.-Col. G. Durrant, A.V.D., H. Gray, T. J. Hagmier, J. S. Hurndall, W. Hunting, H. King, F. W. Kendall,

F. C. Mahon (Hon. Secretary), J. H. Manton, Professor J. Macqueen, Vet.-Capt. R. Moore, A.V.D., Vet.-Major J. A. Nunn, A.V.D., D.S.O. ; Professor J. Penberthy, W. Perryman, Professor W. Pritchard, F. E. Place, J. S. Price, A. Prudames, A. Rogerson, W. Roots, H. G. Rogers, J. Rowe (Hon. Treasurer), W. Reekie, F. G. Samson, W. Anthony Stainton, H. Sessions, W. E. Taylor, James Webb, W. Willis, F. O. L. Walpole, and as visitors, Messrs. Morgan Evans. John Pugh, William H. Beach, W. H. Flook, W. Macdonald, F. W. Melhuish, R. Taglishan.

On the motion of Professor PRITCHARD, seconded by Mr. SAMSON, the minutes of the preceding meeting were taken as read ; and on the proposition of Mr. PRUDAMES, seconded by Mr. REEKIE, they were adopted.

Communications, expressing regret at their inability to attend, were read from Mr. H. Singleton, Mr. T. C. Garry, and Mr. L. Savournin.

Correspondence.

The HON. SECRETARY (Mr. F. C. Mahon) read a letter from Mr. John Dunstan, junr., honorary secretary of the Western Counties V.M.S., stating that the rules of that society were about to undergo revision, and as the members desired to keep in touch with other similar associations, they asked to be supplied with a copy of the rules of the Central Society, a request with which Mr. Mahon was directed to comply.

The CHAIRMAN handed round a letter which he had received from the president of the International Congress of Hygiene and Demography shortly to be held in Madrid, at which the Society would be represented by Professor Macqueen and himself. The communication had reference to the arrangements that were being made to ensure the success of the gathering.

New Fellows.

A ballot resulted in the election of the following members of the Roya College of Veterinary Surgeons : Mr. J. Bell, Rushey Green, Catford ; and Mr A. E. Payne, Beech House, Hersham, Walton-on-Thames.

Mr. B. Eggleton, M.R.C.V.S., was nominated by Professor J. W. Axe, and Mr. W. Hunting.

Victoria Veterinary Benevolent Fund.

The CHAIRMAN : With regard to the formation of the proposed Victoria Veterinary Benevolent Fund, you may remember that a committee was appointed to deal with the matter, and were empowered to add to their number. That committee met at the Royal College of Veterinary Surgeons on Thursday night last, myself presiding at the outset. Immediately the committee had assembled and could be regarded as a representative meeting, I had the pleasure of asking them to vote for a chairman. Professor J. Penberthy, President of the Royal College of Veterinary Surgeons, was then chosen chairman. The meeting at that moment cut itself adrift of the Central Veterinary Medical Society and became an autonomous body. I shall not, therefore, report the subsequent proceedings because they are not the proceedings of this Society. "The Victoria Veterinary Benevolent Society Committee" is now an independent body and doubtless you will hear, through the proper channels, of the steps that have been taken. I may say the meeting of Thursday last was very enthusiastic and, I believe, the sum of £80 has already been offered in the form of donations towards the foundation of the Society. I wish to make it clear why I do not relate the subsequent proceedings of the meeting. They are not the proceedings of the Society or

of a committee of this Society. So I leave the committee to make public its doings as it sees fit.

On the Travis or Stocks.

BY A. L. BUTTERS, M.R.C.V.S.

The subject was illustrated by a model of the apparatus, and of a horse fixed within it.

Mr. BUTTERS said: I found a difficulty in preparing this subject because I failed to find any literature in the English language bearing upon the theme. Hence I am much in the dark as to who invented or introduced this apparatus, or whether any alterations or improvements have been made in it. Not having the advantage of the recorded experience of bygone days with regard to the use of this appliance, we are compelled to base our opinions and ideas of its utility upon our own personal experience, which must necessarily be very limited. Opinions thus formed upon a narrow basis, are apt to be erroneous. It is with the object of obtaining further knowledge and correct ideas about this apparatus that I have brought the subject before you to-night. The first point to which I wish to direct your attention is the name. I find that in some parts of the country the apparatus is called "travis," and in other parts "stocks." The authority I consulted gave the name as "travis" or "trave," derived from the Latin word, *trabs* or *trabis*, a beam, or a lay of joists, a cross beam. And this seems a correct definition of the object, because the entire apparatus is simply an arrangement of beams. With regard to the other word, "stocks," we know the part that the thing thus named has played in the days gone by in the correction and punishment of evil doers. The stocks was a wooden arrangement for confining the limbs of individuals. The travis or trave, though it bears no resemblance to the old stocks, is simply for confining the legs of horses. The cases are so far analogous that, whereas the people confined in the stocks were generally of the unruly and vicious class, horses subjected to the confinement of the travis are generally of the same description—unruly, restive, and vicious. Here, I think, the analogy ends, because the old stocks confined the limbs of persons in a very cramped position, producing great pain as a result. The limbs of the horse in stocks are not, however, confined in that way, but are placed as nearly as possible in a natural position, and the punishment, if any, is self-inflicted by its struggles. Beyond this I will leave it to the Fellows of this Society to determine what is the correct name for this apparatus.

I have here a model of the travis borrowed from my friend, Mr. A. H. Farrow. It is, in my opinion, a very good form of travis, although I may have reason to alter my opinion before the night is out. This travis has, I think, all the appliances necessary to fix the limbs of an animal so that it can be operated upon by the shoeing smiths. And, besides all these appliances, it has movable bars at the sides which can be removed at a minute's notice, and allow the animal to be released should the necessity arise. Please note the fixing of the head of the horse. The head collar and the ropes are so placed as to fix the head firmly and prevent the animal injuring it in any way. The head is steadily drawn into position by this roller. The bottom of each of these uprights (illustrating by model) is an iron ring through which a rope can be passed to the pastern and the end of the rope fastened to catch on the side. Thus each foot can be firmly attached to each of these uprights. There is a large piece of canvas that passes under the body of the animal and prevents the horse from getting down. Then, behind there is an iron roller worked with a handle. By means of this the foot is steadily drawn up to the position necessary for the blacksmith operating upon it, the while it is held steady and firm.

I have seen several forms of travis not exactly upon this pattern and, perhaps, in some respects superior to it. The front uprights were closer together, and consequently did not stretch the forelegs out so much, while the head was more firmly held to the post. I have seen other structures of a much more simple character, devoid of rings to the uprights to fasten the feet. There were a few straps with chain at each end, which were passed under the body, and three straps passed over the back, also a breast strap and a breeching to keep the animal in its potition. The straps were simply linked on to catches at the side and drawn tight according to the size of the animal. Instead of having an iron roller to wind up the foot, there is a piece of wood which is slanting (Mr. Butters proceeded to describe how the foot was then drawn up and placed upon the slanting portion of the apparatus, and fastened to an iron bar, which projected from outer side of the woodwork). He continued: There is no essential difference in these structures, however much they may vary in detail. The whole idea and object of the travis is simply to hold the animal in position for shoeing, and to prevent it struggling or injuring itself, or the blacksmith. The model will be better examined in detail afterwards. No doubt, the origin and use of the travis was to admit of the shoeing of vicious horses, and for this purpose it is a very valuable adjunct to every forge.

But to the veterinary surgeon it is frequently of great service, as it enables him to perform operations upon horses without the risk and danger of casting with hobbles. Besides having clients who object to the method, we all know the great risk and danger there is in casting such horses as do not lie down in the stable. They are generally affected with anchylosis of the spine, and a fracture ensues. The stocks do not appear to be so popular with veterinary surgeons in this country as on the continent.

My friend, Mr. H. Gray, has lent me a few illustrated leaflets. They are advertisements written in French, and I regret to say my command of that language is too limited to enable me to give you a free translation. The pictures, however, will show you to what an extent our neighbours in France have recourse to the travis, and how they are improving upon it. By the *travail bascule*, not only can a horse be shod, but it can be turned on its side or its back to permit of operations being performed on any part of the body or legs.

Finally, allow me to refer briefly, to the dangers of the travis, the risk to which a horse is exposed of injuring itself while struggling during its confinement. This is really the most important part of the whole subject. If by putting a horse in the travis one incurs more danger than by casting it, or fixing it in the ordinary way for the purposes of an ordinary operation, then, I think, the sooner the fact is clearly known the better. And here the want of data and of statistics is much felt, each practitioner having to rely upon his own personal experience. Personally speaking, I consider the number of horses that injure themselves by being placed in the travis amounts to less than a quarter per cent. That horses do injure themselves when placed in a travis is a fact well known to veterinary surgeons who have used the stocks for any length of time, but I do not know whether more danger attaches to the travis than casting in the customary manner. I have seen a horse fracture its spine in the travis, and I have witnessed an animal, subjected to the like confinement die suddenly, from some affection of the heart and lungs, immediately after it has been put in the travis. After a horse has been placed in the structure once or twice, I think there is very little danger in repeating the process. I think those veterinary surgeons act prudently who affix a notice to the travis informing owners of horses that their animals are placed in the apparatus entirely at their (owner's) own risk. I do not know that I could say much more on this subject. We have so very little data to

go upon. I have expressed my opinions as freely as possible. I trust those who may differ from me will express their views equally as freely, so that the discussion may be profitable to both. Gentlemen, I thank you for your kind attention.

Discussion.

Mr. ROWE, in opening the discussion, said that when he was a boy the apparatus was called a "trevice," a word that no doubt originated from the practice of fastening the horse in with trees. In one case he knew of where a horse was put in a travis or "trevice" at a forge, the animal reared and cut its head against the front portion of the apparatus. In another instance, after an animal had, with immense trouble, been got into the trevice it was found to be sweating most profusely, and it died before anything could be done to it. In Belgium nearly every horse was shod in a trevice. He thought it was wise to affix a notice to the apparatus informing horse owners that their animals were put in the trevice at their own risk.

Mr. F. W. DOWELL remarked that in the "Far West" no one ventured to shoe an ox or other animal save in a travis, which was often formed of four trees.

The CHAIRMAN: May I be permitted to bring before you the drawings I have here which I have had made for reproduction. I corroborate many of the points which Mr. Butters so ably laid before you, and perhaps I can supplement them with certain facts as to the customs prevailing abroad. At the school at Alfort it has for many years been the custom to place all animals in stocks very similar to the model here shown, for the purpose of operations, and more especially for operating upon the foot. As has been pointed out, this form of travis is supplemented by the addition of a very elastic bar, placed eighteen inches or two feet beyond the travis to which the animal's foot is attached. The bar is made of yew or other elastic wood, and when the animal struggles the bar gives a little and obviates, on a great many occasions, the animal doing itself an injury. But this form of travis has so many disadvantages and was found so difficult to use, that in France inventors have turned their attention to improving upon it, and when in 1892—93 I was at Alfort I found several forms of travis or operating table in use. There is the ordinary operating table made by a person whose name I have forgotten, but it is made in two forms. There is a light form of operating table to which the animal is strapped, a broad band going across its body and its feet being secured by shackles or hobbles, while the table is tilted on a central hinge by means of a screw wheel, so that the animal is finally laid on its side. The disadvantage of that table was found to be that the animal could only be operated upon at one side, and if an operation was required on the other side it was necessary to turn the table to an upright position and turn the horse and secure him again with his head in the opposite direction. To obviate that the inventor produced a much more complicated and heavier apparatus, not used at Alfort, but used in practice by veterinary surgeons in many parts of France. In this table there are two large leaves, and by means of a screw arrangement the animal is first turned on one side and then the other; but this apparatus is large and clumsy. It has been replaced by an apparatus, the invention of M. Vinsot, and called the *travail bascule*. It is a most ingenious apparatus. (The Chairman then explained it in detail, remarking that the animal lay perfectly helpless.) It has been in use now with perfect satisfaction three or four years. I am contemplating fixing it in my own place. The only objection is that it requires a space of from 16 to 20 feet square in which to work it effectively. By this invention most of the difficulties before experienced in regard to operating tables, travises, and so on, have been overcome. I believe the price

is about £40. I think the inventor is willing to set it up and leave it in working order for about £50. The use of this machine is much preferable to casting horses, and I think the Royal Veterinary College and similar establishments will take it up at an early date.

Professor PRITCHARD: I could not but notice one remark made by our Chairman in his explanation of M. Vinsot's apparatus. He said that it means the animal was perfectly helpless. Those two words "perfectly helpless" struck me. I should like a little more explanation about that. I have had some considerable experience in casting horses. I have cast them under the effects of chloroform and other anæsthetics, but I have never yet seen one perfectly helpless. I shall not criticise the whole of our Chairman's remarks, but it does occur to me when he says we shall want a place of 40 square feet in which to fix this apparatus——

The CHAIRMAN (interposing): I said from 16 to 20 square feet.

Professor PRITCHARD: Well, from 16 to 20 square feet. I will give you that and inform you that I have operated upon all my horses within a distance of 14 feet square. Neither had I any trouble. While you were fixing your horse I tell you candidly my operation would be over. I do not see why any veterinary surgeon should incur an expense of £50, or £25, or even £15 to buy an apparatus of this description, because I assert, and assert most positively, that I can do without it.

The CHAIRMAN explained that by the words "perfectly helpless" he simply meant the absolute inability of the animal to injure itself, and that it was well secured. As to Professor Pritchard's remark about the needlessness of buying this *travail bascule*, and his assertion that while the horse was being fixed in it he could have completed his operation, he (the Chairman) could only congratulate the Professor upon his dexterity. During the past few years certain advances had been made in surgery, and veterinary surgeons had now a fair idea of what antiseptic and also aseptic surgery meant. In casting a horse on a bed of straw there would be a great difficulty in carrying out an antiseptic operations at any rate. The apparatus in question admitted of the performance of an aseptic operation. A practitioner in France was performing operations on broken knees at the rate of 200 francs or £8 each case, and he has already, by the aid of the *travail bascule*, operated successfully upon thirty horses, thus realising already several times over the cost of the apparrtus. Without the *travail bascule* he would have been unable to operate at all. That, the Chairman thought, was a sufficient answer to the objection raised that the apparatus was no use at all.

Mr. ROGERSON remarked upon the necessity of employing a travis in shoeing vicious horses. It was not absolutely necessary, he thought, to put them into the travis to shoe the fore feet, but it was absolutely necessary occasionally to place them there in order to shoe the hind feet. He recalled an instance in which, on entering a forge, he found a farrier all unconsciously shoeing a dead horse as it stood in a travis. The animal had got its windpipe fixed against the front board of the machine, and was thus strangled. It was a difficult matter to fix a horse's head securely so that the animal could not injure or strangle itself. As to the belly band, he did not think this was absolutely necessary, and, besides, it was often the cause of the horse getting into an awkward position that precluded the performance of any operation.

Reply.

Mr. BUTTERS, in replying, said, in allusion to a remark of Mr. Dowell's, tha it was formerly quite a common thing in his country to shoe all horses in the rough improvised travis formed of trees, to which Mr. Dowell had referred. This was before the introduction of railways. Drovers considered themselves

clever when they could shoe an ox. He thought that, as veterinary surgeons, it behoved them to improve their appliances for so fastening or securing their patients that they could operate upon them with ease to the animals and safety to themselves. Latterly some veterinary surgeons seem to have adopted what his friend, Mr. Rogers, aptly called "gymnastic surgery," performing operations with standing animals in a manner that more became acrobats than veterinarians.

On the motion of Prof. PRITCHARD, seconded by Mr. ROGERSON, thanks were accorded to Mr. Butters for his address.

Fracture of First Rib.

This subject was brought before the meeting by Mr. HUNTING, who showed a number of specimens of the lesion, and related the circumstances connected with each. His remarks will be found in the form of an illustrated article in a recent issue of the *Veterinary Record.*

Discussion.

Mr. W. WILLIS, in opening the discussion on Mr. Hunting's paper, said he had seen several of these cases of radial paralysis or fracture of the first rib, and his belief was that impact with the collar was the main cause of the injury. One case within his cognizance was the result of a horse backing into a basement with a load of bricks, and another case was due to a horse plunging over a piece of paper as it was traversing asphalte pavement. The animal jumped up into the air. It did not fall, but landed on its feet, and was dead lame immediately. The animal had really plunged into its collar. There was no history of a fall in the great majority of these cases. He had frequently witnessed a recurrence of the lameness in the opposite limb after a horse had resumed work. (Mr. Willis submitted various specimens.)

Mr. TAYLOR said all who had to do with omnibus horses, came across many of the cases described by Mr. Hunting. Some of the animals recovered after a while and resumed work, but they often became lame again. If they first went lame in the off fore limb, recovered and resumed work, it was not uncommon to find them at a later date lame in the near fore limb. There was no doubt that the peculiar condition they saw in a specimen produced, was the result of fracture of the first rib.

Professor PRITCHARD said he failed to see how fracture of the upper part of the rib should be the cause of paralysis. He recollected a case that occurred thirty-five years ago, in which an animal jumped over a fence and fractured both first ribs, but there were no symptoms such as had been described that night. It was not discovered, until after the animal was dead, that the ribs were fractured. The two first ribs, one on each side, were then found to be broken close to their heads. Beyond there being a certain amount of lameness, nothing else was noticed.

Mr. BUTTERS said he had seen two cases of fracture of the first rib in cart horses. One of these animals, a heavy horse used for shunting purposes, was brought him very lame, and was said to have slipped but not fallen. He failed to diagnose the case. He could not make out what was the matter. He thought, however, there was a fracture. As the animal was not of much value it was destroyed. In making a *post-mortem* examination he failed to find any lesion except the fracture of the first rib close up to its head. At that time he did not know much about this form of injury or the symptoms produced; and he wondered whether he had not overlooked something else which had caused the dropping of the elbow and the excessive lameness. Twelve months afterwards he had another similar case in a van horse. The animal

recovered, and he failed to follow it up as the horse was sold. There was such a concurrence of opinion about these lesions that, when they got an animal with the symptoms which Mr. Hunting had described, there could be no doubt that it had fractured first rib.

Mr. J. K. BRUCE said one of the worst cases he knew was caused when an animal was going down hill; while another case resulted from a horse skidding along tram lines. He referred to the rapid waste of muscles which occurred in these cases after the injury. He did not know any other lameness where they had such rapid atrophy.

Reply.

Mr. HUNTING, in replying, said Professor Pritchard had failed to see why the fracture should be the cause of paralysis. He did not think he could quite mean what he said. He thought, as far as one could logically argue, the cases he had brought forward showed that fracture was the cause of the paralysis. At any rate it was extremely difficult to say what link in the chain of reasoning, leading to this conclusion, was missing. Some half-dozen veterinary surgeons had seen some dozen horses, in all of which certain definite symptoms were exhibited during life, and, on *post-mortem* examination, all the animals were found to have fracture of the first rib and no other lesion. Prof. Pritchard instanced a solitary case in which a horse had the two first ribs fractured, and yet did not show the symptoms mentioned. He (Mr. Hunting) had pointed out that fracture of the first rib might occur without paralysis of the triceps muscle in cases where the fracture was done to the head of the rib. He thought both the cases mentioned by Mr. Bruce were consistent with the animal hitting his rib against the collar. Finally, Mr. Hunting advised that they should follow up these cases, even if the animals recovered, and when they ultimately did it would be interesting and instructive if they pursued their investigations at the knacker's yard.

On the motion of Professor PRITCHARD, seconded by Vet.-Captain MOORE, a vote of thanks was given Mr. Hunting for his interesting communication.

Cauteries.

The CHAIRMAN next exhibited in action and explained Graillot's Zoo-cautery and Dicherg's New Automatic Cautery, while Mr. H. Beach, M.R.C.V.S., of Bridgnorth, Salop, showed an improved cautery of his own invention—also in action.

Thanks to the CHAIRMAN and Mr. BEACH for their interesting exhibits closed the proceedings.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE thirty-sixth annual meeting and dinner was held at the Grand Hotel, Manchester, on Friday, February 4th, 1898, the President, J. McKinna, Esq., of Huddersfield, occupied the chair, and about sixty members and guests were present, including Professor Williams, Edinburgh; Dr. Niven, Medical Officer of Health, Manchester; Dr. Annis, Medical Officer of Health, Huddersfield; Mr. Greenhalgh, and Mr. McCarmick, Hon. Secretary of the Yorkshire Veterinary Medical Association; Mr. W. Shipley, Jun., Hon. Secretary of the Eastern Counties Veterinary Medical Association.

Apologies were received from Professors McCall, McFadyean, and Dewar; Drs. Delépine and Young; and Messrs. Hunting, Carless, Dawes, and Colonel Duck, A.V.D.

The minutes of last meeting were read by the SECRETARY, and approved on the motion of Mr. J. H. CARTER, seconded by Mr. A. MUNRO.

Mr. Ben. Ferrie, M.R.C.V.S., Stockport, was elected a member, the resolution being proposed by Mr. J. H. CARTER, and seconded by Mr. W. PACKMAN.

Mr. E. A. Saxton, M.R.C.V.S., Nantwich, was also elected a member on the proposition of Mr. CHALLINOR, seconded by Mr. J. LAWSON.

The following were nominated for membership:—Mr. J. B. Collyer, M.R.C.V.S., Knutsford, nominated by the Secretary, Mr. H. LOCKE; Mr. Will. Stothert, M.R.C.V.S., Blackburn, nominated by the PRESIDENT; Mr. Hugh H. Ferguson, M.R.C.V.S., Warrington, nominated by Mr. J. H. CARTER.

The PRESIDENT then delivered his inaugural address:—

Gentlemen,—My first duty on taking this chair is to thank you most heartily for the great honour you have done me in electing me your President. I accept the position with considerable diffidence as to my capacity for such a high office, but with none as to my intentions and earnestness in carrying out its duties. I cannot help knowing that I follow in the steps of men of greater capacity and of greater attainments, still it will ever be my sincere desire to further the best interests of this Association during my year of office and so keep it up to the high standard of efficiency which it has now attained. I look to you for help and at the same time wish gratefully to acknowledge the many kindnesses you have shown to me while I have been a member of this Association. I shall not inflict a long address upon you this evening and should have been glad to have been excused altogether. But as the Committee would not hear of this, I will briefly lay before you a few thoughts that have occurred to me on matters relating to the profession. In reviewing the past year there has not been very much to note. I consider in one respect, however, we have made a distinct advance, and that is in the passing into law of the new Public Health (Scotland) Act, and only hope the same law will soon apply to the whole of Britain. After a great struggle the veterinary surgeon is at last recognised publicly in his proper sphere, for who is so capable as he to diagnose the diseases of animals, as well as to give an authoritative opinion as to surroundings, etc. In an editorial on this subject Professor McFadyean sums up the matter thus:—"Section 34 empowers the local authority of any district, other than a burgh, to erect slaughterhouses within or without their district, or to combine for that purpose with neighbouring local authorities. Although the section is only permissive, one may hope that it will help towards the gradual extinction of the dirty, practically uncontrolled private slaughterhouses that are still the rule in most parts of Scotland. When public abattoirs take the place of those it may be regarded as certain that they will be supervised by veterinary inspectors. Section 43 deals with the question of unsound food. It empowers any medical officer, sanitary inspector, or veterinary surgeon approved of for the purpose by the local authority to inspect any article of food, or any animal intended for food which is exposed for sale, but it stipulates that in the case of any proceeding under the section with regard to a living animal the medical officer, or sanitary inspector, unless he is himself a qualified veterinary surgeon, shall be accompanied by an approved veterinary surgeon. The most important clause of this section, however, is that which empowers each local authority to appoint a place within its district for the examination of any animal alive or dead, and to appoint a veterinary surgeon, whose duty it shall be for a fixed fee to examine such animals and to pass or condemn the same as regards their fitness for human food. The importance of this lies (1) in the fact that the veterinary surgeon is exclusively recognised as the meat inspector, and (2) in the fact that a preceding part of the section exempts from penalty or imprisonment any person accused of

offering for sale unsound meat, provided he can prove that the meat in question had within a reasonalble time prior to the seizure of been examined and passed by a veterinary surgeon approved for the purpose. Section 60 deals with the inspection of dairies, and it stipulates that the medical officer of health must be accompanied by a veterinary surgeon approved for the purpose, when he examines animals whose milk is supposed to be causing disease among human beings, and any report by the medical officer of health regarding such an inspection, must be accompanied by the report of the veterinary surgeon." It is evident, therefore, that the powers committed to the profession are of a very responsible character, and if in the future the medical officer of health and veterinary surgeon can work amicably together, what a great boon will be conferred on the public at large, especially in our populous towns and cities. In a recent public prosecution meat case, known to me, a recognised medical authority on tuberculosis, which was the question in dispute, as to its fitness or otherwise for human food, declared that an animal could not possibly live whose viscera were full of tuberculous nodules, including the kidneys, which were studded with milliary tubercles, together with two large abscesses, besides smaller ones in each lung, as well as the lympathic glands being affected. Whatever may be the case in the human subject, we know that in veterinary practice such cases are frequently met with, and still the animal be in fair condition and live for some time. This authority also stated that such a condition was a purely local affection, and if the lesions were stripped, it would be perfectly fit for human consumption. He likewise stated that no case, however pronounced, should be condemned without the aid of the microscope, and yet admitted, in cross-examination, that the microscope in such cases was not necessary, as the disease could easily be seen in cutting up the meat. If such carcases of marked generalised tuberculosis are palmed off as wholesome food, we had all need pray to be delivered from such medical meat inspection. This makes me more convinced than ever that in all cases of meat inspection, the veterinary surgeon is the one whose training alone fits him for being exclusively recognised as the authority to determine the existence or otherwise of disease in either the living animal or *post-mortem*.

Another matter which is worthy of notice, is the great benefits to be derived from the National Veterinary Benevolent and Mutual Defence Society. This society ought, in my opinion, to commend itself to the whole of the profession more than it does, especially the younger members of it who may not be established long in practice, and who any day may be brought into court by some litigous client. To such members, it must be of inestimable value, and the wonder is that more have not taken advantage of it. I consider it a libel on the part of those who have thought to designate it purely "a Manchester Society." This is not so, and speaking as a Yorkshire representative I have never looked upon it in that light, although I confess we owe much to those friends in Manchester who have done their best to make its advantages known to the profession. Mr. Morgan, of Liverpool, now President of the Society and the late lamented Mr. Thos. Greaves, I believe, have travelled the length and breadth of the country spending much of their time and money persuading members to join the National Society. To these and other gentlemen the profession must always owe a deep debt of gratitude for the sacrifice they have shown in advocating the claims of the Society. I should like again to emphasize that this therefore is not a local Society, as some would have us believe, but national in every sense of the word and truly desirous of enlisting if possible every member of the profession. May I ask those of you who are not members to show your practical sympathy by joining without delay, for although you may not have to defend a case at law (and I hope you may not), still you are subscribing for

something which has for its object the relief of less fortunate members, who may not be so from any fault of their own and this fact ought in itself to call for a large number of subscribers. It must be a matter for regret to us all who desire to see the National Society strengthened that an attempt is being made by our southern friends to form what cannot be a local society. Especially when it is remembered that very recently the Secretary has spent a large sum of money in defending a case in the south. In looking back on the last quarter of a century one is glad to note the great strides the profession has made especially in the education of the student who now has to go through a course of training as thorough as that of the medical. Both educationally and socially I think I may safely say our position is now assured. In this democratic age titles have not the value they once possessed, but we were glad nevertheless to see amongst those upon whom the Queen conferred New Year honours, the name of Professor now Sir George Brown and even the commemoration medal of the Jubilee presented to the President of the Royal College of Veterinary Surgeons should not be passed without comment, although I have noticed in some quarters that it has been held up to ridicule. These honours have been bestowed on purely professional grounds and one gladly welcomes any signs which shows that as a profession we are advancing. We number men of culture, of high scientific and literary attainments as the heads of the veterinary profession, some of whom we are glad to welcome here to-night. It behoves us, therefore, as individual members of the same to do our utmost to uphold and advance the interests not only by our conduct as professional men in dealing with our clients, but as honourable English gentlemen in dealing with each other. For I regret to say that in these days of keen competition and overcrowding, the struggle for a living leads occasionally to conduct which, to put it mildly, borders on the unprofessional.

The question of eradicating swine fever from the country is a work of great magnitude, but the Board of Agriculture I think is to be congratulated on seeing the work, shall I say nearly successfully, accomplished? Certainly the number of outbreaks during the last few months are comparatively few and far between, and I am hopeful of seeing the country soon free from this dire disease which has been the cause of great loss to agriculturalists. This success has been accomplished, I maintain, since more responsibility was thrown upon the veterinary surgeon.

It is a matter for regret that tuberculosis is not yet scheduled in the Contagious Diseases Animals Act. Certainly it is by far the most widespread and the most serious of all diseases among farm stock and is greatly on the increase among milch cows. Individual effort can do much to prevent its spread and if veterinary surgeons will bring their influences to bear upon stockowners to induce them to have their stock periodically tested with tuberculin (which is undoubtedly of great and reliable diagnostic value) together with isolation of affected animals would be an important step in the right direction.

It is really surprising that in apparently fine herds of cattle how many when tested show themselves the victims of this insidious disease. To mention only one case known to me, out of 94 cows tested on a large dairy farm no less than 70 showed a marked reaction. Let us hope that the next reform undertaken by the Board will deal in a practical manner with this disease. To quote from a pamphlet written by a friend of mine, Mr. Robert Barron, M.R.C.V.S., Blandford, "Legislation is urgently required to make the diagnosis of tuberculosis compulsory at the expense of the Government, to enforce the isolation of diseased animals and disinfection of buildings, to secure sterilisation of the milk of tuberculous cows and adequate veterinary inspection of the flesh for human food." Very much may be done to root out

tuberculosis without resorting to the "stamping out" process which is so fearfully prevalent a disease as this would be little short of ruinous. I thank you, gentlemen, for yonr courteous hearing and in conclusion may I express the hope that you will, by your attendance and contributions, make the meetings of the year upon which we have just entered as interesting as those of past years. For my own part I think these periodical interchanges of thought (to say nothing of the social side), are of great benefit. By comparing notes our ideas are enlarged and our sympathies broadened. We find we are none of us too old to learn, or free from the trials and worries incident to any trade or profession. But to every man who gives to his work the best of his time and ability there will surely come that recognition and appreciation which is his due. "'Tis not in mortals to command success, but we'll do more, gentlemen, we'll deserve it." And now, gentlemen, nothing remains but to "let good digestion wait on appetite and health on both."

On the motion of Mr. W. A. TAYLOR, seconded by Mr. ABSON, and supported by Mr. E. FAULKNER, a vote of thanks was accorded the President for his very interesting and eloquent address.

Professor WILLIAMS drew attention to an incident which happened in Edinburgh early last month.—A carcase of beef, which had been passed by a veterinary surgeon he knew well and who was beyond suspicion, was at the public abattoir condemned by Mr. Littlejohn, the medical officer, whose observations upon the veterinary surgeon were of a most stringent, if not almost of a defamatory, character. To, if possible, support the veterinary surgeon, he inspected the carcase, and concluded it was justly condemned, as it was in a dreadful condition; but here arose the question, which placed a veterinary surgeon in a peculiar position to be guarded against and avoided, as to whether these slink butchers substitute other carcases which are sent to the public slaughter-house without being subjected to inspection, the good ones being sent to their own shops.

The balance sheet of the society was received, and unanimously adopted on the motion of Mr. E. FAULKNER, seconded by Mr. JONES.

The Dinner.

After the customary loyal toasts had been duly honoured, Dr. ANNIS, Medical Officer of Health, Huddersfield, proposed "The Royal College of Veterinary Surgeons." He regretfully referred to the absence, through illness, of Dr. Delepine, whose proposal of the toast, he thought, would no doubt have been more entertaining and instructive than his. Referring to the health of the country, he considered the medical profession, and medical officers of health in particular, were very much indebted to the veterinary profession for their assistance in endeavouring to reduce the causes of death among the people inhabiting large towns. The veterinary profession should work hand in hand with the medical profession, because many of those diseases from which animals were liable to suffer, were communicable in various ways to man. In connection with the meat and milk supplies, there was a great work in store for veterinary surgeons and, as a matter of fact, he had on one or two occasions tentatively suggested to his committee the wisdom of appointing a veterinary surgeon, if not to give the whole of his services to the corporation in looking after the meat and milk supplies, yet by a species of retaining fee he, Dr. Annis, should be at liberty at any time to call upon him for his assistance and observations upon any question in dispute. A code of regulations, which he had recently drawn up, whereby the milch cows in his vicinity would be able to live more comfortably and, consequently, with greater benefit to the milk supply, had, he was pleased to say, met with the favour of their council and had been adopted. In this matter he was

indebted to his friend, Mr. McKinna, their able President. He was also able to call upon him for various help in connection with the meat supply. This question of the milk supply was of so much importance that he would like established not only in Huddersfield, but over the whole country, some system by which the cows, upon whose lacteal fluids we depended, were kept in a proper healthy condition. Every cow should be tested with tuberculin, and if found to react unfavourably, an arrangement would be welcomed whereby a portion of the loss would fall upon the community at large, and a reasonable proportion on the cowkeeper. It was only by such measures as these that the cowkeeper would become interested in seeing that his cattle were kept to a natural standard of health. This matter Dr. Annis also mentioned to his committee, but economical reasons prevailed.

Mr. A. W. MASON, Leeds, responding, thanked them for coupling his name with what was, he thought, the toast of the evening. It certainly had been placed in most able hands. He was not, however, as was supposed, the senior member of Council. That was Professor Williams, but, as a junior member, he tendered his sincere thanks to Dr. Annis for his kind sentiments respecting the veterinary profession.

Mr. ALEC. LAWSON, after a brief reference to Mr. Mason's long connection with the Council of the Royal College of Veterinary Surgeons, and to the probability of his being before long its president, spoke of the Council work as being hard, but it had been a great pleasure to him to be associated with it and to have assisted in that laborious work. Health permitting he would continue it in the future.

Professor WILLIAMS said he felt highly complimented at being asked, as senior member of Council, to say something; but this was not his intention, because he was a fighter in the Council, and, unfortunately, a fighter in the minority.

Mr. W. A. TAYLOR gave "The Veterinary Schools," remarking that it was an important one, inasmuch as it affected a subject connected with the education of the aspiring veterinary surgeon. In his career, as a member of the profession, he had seen vast strides in the educational department of veterinary science. The profession had striven hard to gain their present proud position, and without the interest or the assistance of the Government. All the veterinary schools, he thought, with one exception, were self-supporting institutions, and after the resolution of the Royal College of Veterinary Surgeons that the period of study at the colleges should be increased to four years he was somewhat astonished to find the four teaching schools still in existence, as it meant no small call upon the individual exchequers of the various institutions to maintain the educational status of their respective teachers, for after all, what one learnt at college adhered to him through life; moreover, the number of examinations had been increased, therefore it could be understood that the work of the teachers of the schools had also been augmented. Speaking from experience, it was no light duty to be an examiner, and from this deduction was apparent that it was manifestly much more difficult to be a teacher. It required energy, skill, determination, and above all, patience to educate the youngster, so that he may pass successfully the Board of Examiners. He knew that the trials of the principals and proprietors of, at any rate, three out of four of the veterinary schools had been great since the period of curriculum had been increased to four years, but he hoped these trials would be less in the future. Veterinary teachers had quite enough to do in the fulfilment of their duties, but it would appear that in the veterinary profession there were members who did not hesitate to traduce the characters of some of the teachers—to wit, an article in the "Live Stock" Journal, dated January 21st, which he was sorry to say was written by a member of the profession, stating

that the majority of the lecturers on cattle pathology were deficient, or rather had no practical acquaintance with the bovine species. It was disgraceful, nay, scurrilous, that a man should write this in a lay paper. He dare not write in the same terms in one of their scientific journals : in fact conduct of this description ought to be considered by the council of the R.C.V.S. It was a calumny on the teachers of cattle pathology. Proceeding, Mr. Taylor referred to the presence of the "evergreen" Professor Williams, and congratulated him on his rejuvenescence. Whether or not their teachers were acquainted, practically as well as scientifically, with the diseases of the bovine species, it was well known that a certain disease broke out in Jamaica, and Professor Williams was asked to investigate that outbreak ; and, as a result of his investigation and advice, it had disappeared. This was a triumph for the veterinary profession. Concluding, Mr. Taylor referred to the close connection between the veterinary and medical professions, and said, if they could not advance hand-in-hand along the broad path of science, to the advantage of the public, it would be a sorry day for both professions. There was no time now-a-days for them to quarrel. Their goal was the amelioration and prevention of disease in the human subject and in the lower animals, so that at some day they might be in a position to state that diseases which were communicable from one to the other had disappeared from the face of the earth. He asked them to drink to the health of the "Veterinary Schools," coupling with it the name of the only professor present, who never deserted them, the "Evergreen Professor Williams."

Professor WILLIAMS, in responding, said, on looking upon such a splendid assembly, he felt exceedingly flattered to see so many of his old students and disciples, who always extended to him a hearty welcome ; but on recalling the circumstances of his being at the Association's Second Annual Dinner, about 35 years ago, and missing at this festive board the faces of those who had passed away, and who were the founders of the association, he could not help confessing to a feeling of regret. In the room there was only one who was present at that second annual dinner, and he was then a "wee laddie," not having gone to college. That was Mr. Augustus Taylor, who now proposed his health. Continuing, Professor Williams said that they were men-giants of the Profession in those days, who worked hard and laid the foundation stone of the society, which was continually growing. Amongst them were such men as Jno. Lawson, Peter Taylor, Greaves, Friend, and Lucas. Still remaining was old George Morgan, and he was sorry he was not present, for he might have assisted him with some little facts in connection with the foundation of the Society and the National Benevolent and Defence Association. He, Professor Williams, was the only representative of the founders of the Defence Society. He felt sorry that so many good men had passed away—still he saw their sons. Mr. Woods was also a very old and respected founder. He was glad to see his son and also the sons of Jno. Lawson. All honour, respect, and devotional feeling should be extended to the memory of those men, who did much in their time for the elevation of their profession and who were pioneers in the same. He could scarcely express his feelings because in all probability in course of time the opportunities of meeting them and his kind friends would not and could not possibly be very frequent again, but he trusted that he should still have a few more opportunities of meeting them. He had the greatest pleasure in meeting the Association and the Yorkshire Association of which he was one of the founders. He was always rewarded when he came to Lancashire and Yorkshire and he extended a life-long gratitude to his friends in those counties for their kind support in keeping up his school. There was a great deal to contend with, a great many sacrifices, but owing to the kindness of his friends in the Midland Counties his school had still been able to keep its head above

water. Mr. Taylor had kindly referred to his work in Jamaica and he returned his best thanks to him. That work was very hard, was honestly performed, and had terminated in success. When he went there the whole island was full of disease—thousands of cattle were in a dying condition—thousands had died within the three or four years previous to his visit and the inhabitants did not know what was wrong; some said this, that, and the other. However, he went into the matter conscientiously to get at the root of it. He did nothing more than give his opinion as to the cause and suggested remedies for the eradication of the disease. If he had done no more work in his lifetime he felt certain that the success which had attended his investigations was a sufficient reward even for his life's labour. He thanked them sincerely for coupling his name with the toast.

Mr. J. ABSON, Sheffield, submitted the "Board of Examiners," adding that they needed their commendation and respect for the onerous duties laid upon them. They were called upon to leave their practices at times, probably most inconvenient to them—they had to travel in the night—and nothing could be more tedious and tiring than examining students for so many hours at a stretch. Their pay, too, was not at all proportionate to their services, and he much regretted that the funds would not permit of that increase being made which he thought their due. He coupled with the toast the names of Messrs. Woods and Wolstenholme.

Mr. WILLIAM WOODS, Wigan, in responding said he thought there had been some mistake, because the examining board was defunct—at any rate, although they were *de jure* the examiners, *de facto* they were defunct, until there was a re-election, and he had been told that his action on the question of docking would seal his fate as to re-election. If that were so, he was not sorry—it would be a glorious death. When the re-election did take place, as he supposed it would in a short time, he fully expected to be left out in the cold, but it would be an ever-cherished memory, of which nobody could rob him, that he had been considered fit to be associated with such names as Fleming, Cox, Duguid. He had been an examiner for about seven years, and had done his best. He was pleased to say, in all sincerity, that he had seen a marked improvement in the class of student which had been brought before the examiners—it improved every year, and although the examiners had incurred a considerable amount of displeasure, or something approaching to enmity, from some of the powers that be, he felt certain that the action which some of the members had taken, not of themselves, but because they had been directed by the Council to take it, that would be productive of great benefit to the profession, and in bidding adieu to the latter as examiner, he should give his mead of praise to the teaching schools. He believed they were never so efficient nor so well equipped as they were at present. Though the names of Dick, Spooner, and Sewell were rightly numbered amongst veterinary surgeons as giants in the profession, he believed that when history became to be written, that the names of Professors McFadyean and Williams would be placed above them. The examiners were found fault with—they always were—for having so many to please, they were bound to clash with someone, and some of the faults, perhaps, ought really not to be laid at their doors. One of them was the passing of students for membership of the R.C.V.S., with only 45 per cent. of marks out of the maximum of 100, but as regards this the examiners had the instructions of the Royal College, and the examiners should not be blamed for that. He appealed to the medical gentlemen present as to whether a newly-fledged member of the medical profession knew his work thoroughly. It was impossible, he said; there was nothing but experience and time, that would enable a man to be thoroughly master of the subjects such as they had to deal with, and such as the medical profession had to deal with, and they must only expect from a newly-fledged

veterinary-surgeon such knowledge as he has got, and not that he thoroughly knew his work. He had one little suggestion which he would like to make to the Council, and that was the division of the examination. It was, as they knew, divided into two sections—a written and oral examination. The written consisted of answers to six questions—the oral of a full hour's oral examination, but to each of those examinations was awarded an equal number of marks. He did not think that that tended to a fully efficient examination. The answers to those six questions ought not to rank equally with the answers to one hour's oral examination.

Mr. J. WOLSTENHOLME, who also responded, said reference had been made to certain inconveniences which an examiner had to put up with. Doubtless, there might be certain disabilities in having to leave the ordinary daily and local duties, but what position was there to which an honourable man might aspire which did not involve some sacrifice and impose certain responsibilities. As to that of examiner in their profession, the compensations far outweighed all inconveniences. The very fact of having to examine young men who had just received the latest and test teaching of the schools, was in itself a high form of education for the examiner. Then there was that education which came from the privilege of close contact with other examiners—men eminent in their own and the medical profession, which had been alluded to eloquently by his colleague, Mr. Woods. In this connection he could not suffer to pass unnoticed the name of the late Mr. Woods, who was a veterinary surgeon of the highest type, and a genial, gentle, and judicious examiner. The system of examining the students at the centre in which they were taught, afforded the examiner the advantage of change of scene, and this coupled with the extreme courtesy and consideration extended to him by all with whom he was thrown in contact, went very far to make the position not simply endurable, but one to be desired and worked for. Concluding, Mr. Wolstenholme thanked them for the kind manner in which they had coupled his name with this important toast.

Mr. E. FAULKNER, in proposing "The President L.V.M.A.", said: Messrs. vice-presidents and gentlemen, I esteem it an honour to have been asked to submit for your acceptance the next toast on the list, and, in so doing, feel it is only necessary to mention the fact of its being that of Mr. McKinna, the President of the Lancashire Veterinary Medical Association, to at once command attention and enlist your kindly feelings. I have had the pleasure of his acquaintance for some considerable time, and have begun to regard him not only a professional brother but as a friend. At all times, I can assure you, he has shown a kind and gentle disposition—been gentlemanly, courteous and intelligent. To me he seems to have a mission, and that a life's work in endeavouring to aspire to the highest possible ideal of a veterinary surgeon's duty in ministering to the wants and relieving the sufferings of such of the lower animals as come within the sphere of his labours. His diffidence when requested to accept the Presidency of this association, in my opinion, arose from the fact that he possesses an analytical mind, capable of introspection and self-examination; and I would far rather have him so than to have shown an overwhelming self-confidence, that great stumbling block to self-improvement so frequently associated with ignorance. In his election to the chair, we have one who is earnest and will spare no effort to maintain the honourable traditions and prestige of the Association, and make it continue to be in the time to come as in the past, a centre of usefulness for the dissemination of knowledge and mutual improvement. That being so, it devolves upon us—the rank and file—to do our part, which is comprised in the words "our duty," whose meaning you are as fully acquainted with as myself. Doubtless, our President feels, as do we, that this large, enthusiastic, and pleasant gathering is a happy augury for the success of his year of office. I, therefore,

in all sincerity raise my glass and ask you to join with me in drinking to the good health, happiness and prosperity of our worthy President.

The PRESIDENT acknowledged in grateful terms his indebtedness to Mr. Faulkner for his very kind remarks.

Mr. J. B. WOLSTENHOLME gave the toast of "The Medical Profession." He said:—Gentlemen,—This toast is one which always gives me particular pleasure in having the honour to propose, and I desire to thank the members of this Association for having entrusted it to my care. Medicine and surgery are one and indivisible, whether applied to the needs of the biped or of the quadruped. The profession of medicine, which is partly a science and partly an art, is, in my opinion, one of the most exalted in which a man may engage. It affords unbounded opportunities for the advancement of science and the general comfort and happiness of mankind. All the powers of the mind, the resources of courage and the marvels of manual dexterity which a man can possess, may find scope and opportunity in this profession. Certainly, the medical, as distinct from the veterinary, opens up a far larger field for work and usefulness. Gradually, year by year, this field is becoming more and more divided, with the result that advance is being made in every direction. Among the notable divisions is to be found that of Public Health. In this section of the work the veterinary profession are especially interested, because the public health is affected by those diseases which are communicable from animals to man, and those diseases which may follow the ingestion of certain foods and milk. The veterinary profession is taking especial care to train their students to be of service to the community in this respect; and unless a man is so trained, and made familiar with the diseases of animals, he cannot peform the functions properly. We aspire to be the trained experts, to safeguard the community on these matters. The ordinary examination for our own diploma includes these subjects, and there are pathologists of the highest status amongst the examiners. We appeal to the medical profession that the skill and knowledge, which can only be acquired by prolonged veterinary training, may be aided by them to obtain its full measure of usefulness as a factor in the preservation of the public health. Gentlemen, I ask you to drink with me to the health of "The Medical Profession."

Dr. NIVEN, Medical Officer of Health, Manchester, in responding, thanked them heartily for the honour they had conferred upon him in asking him to answer to the toast, and for the very able and kindly way in which Mr. Wolstenholme had proposed it. It was a very good sign for the future that there was such cordiality displayed by the veterinary profession to the medical profession, which, he was sure, was amply reciprocated at any rate by every thinking man; and it had been a great pleasure and privilege to him to be present at their dinner, and to meet so many distinguished men in the veterinary profession. He assured them he did not undervalue the magnificent work they were now performing. He knew that the veterinary profession had, especially in recent years, been making great efforts to supplement the general knowledge they had at all times possessed of the diseases of animals, by a precise and good pathological knowledge, which was necessary to complement the other; and from what he had heard (he was sorry he could not speak from an intimate personal knowledge) from Dr. Delepine, who was eminently well able to speak on that subject, he quite agreed that the veterinary profession were now attaining a very high position both scientifically and socially. They all knew, he thought, that the medical profession in Manchester had done ample justice to the veterinary profession so far as public health was concerned. From an early period of his arrival in Manchester, one of his objects, along with their excellent veterinary surgeon, Mr. King, was to add efficiency to the staff of veterinary surgeons; and he thought he might say he cordially co-operated with him

in recommending the increase of staff in Manchester which they now possessed. Not only so but a step has been taken, which, he thought, would be worth mentioning, viz., that their large fever hospital was supplied with milk guaranteed free from tuberculosis. Knowing the anxiety of the veterinary profession that this country's stock should both for breeding and public health purposes be healthy, and that the veterinary profession were anxious this forward step should be made, he thought he could claim kinship and sympathy in those advances which the medical profession were endeavouring to make in that direction. On the other hand it was strongly his feeling that in future very largely upon the veterinary profession would devolve the carrying out of public health measures in respect of cattle. The numerous problems and the great advance of knowledge which was being made would afford ample materials for medical officers of health in which to exercise their faculties and would also enable the rising generation of veterinary surgeons adequate opportunity to use the new knowledge they were acquiring, and he thonght the future very largely belonged to them in the prevention of those diseases which were communicable from cattle to man. He would be very glad to see a public veterinary service especially in this country in close association with the Medical Officer of Health.

Mr. SAM LOCKE, in proposing "the Visitors," including the other veterinary societies, said Lancashire was proverbial for its hospitality, and he felt sure the Lancashire Veterinary Medical Association would uphold that tradition. They were always pleased to see visitors at their festive board and at their ordinary meetings. To-night they had been favoured with a good many visitors, some distinguished ones, viz., Dr. Niven, Medical Officer of Health, Manchester, and Dr. Annis, the Huddersfield Medical Officer of Health. They had also their friends from Yorkshire and Eastern Counties Veterinary Medical Association and in the name of the Association he extended a cordial welcome to all the guests.

Mr. W. SHIPLEY, Jr. (Hon. Secretary of the Eastern Counties Veterinary Medical Association), responding, said it was a great honour to acknowledge the toast of "the Visitors." He took a deep interest in veterinary medical associ ations and he was pleased to have the opportunity of saying how they, in the Eastern Counties, were indebted to the Lancashire Society. His Assoc ation were few in membership, and they had to depend on the Lancashire Society's support in sending a representative to Council, for which assistance they were more than obliged.

Mr. BARRON also replied. He was an old member of the Lancashire Veterinary Medical Association and when the meeting were at Liverpool he was a regular attendant. He was glad to see that the Association was progressing in members and influence and to meet so many eminent men there. He came chiefly on account of their newly-elected President, and he was pleased to see that they had been able to select a man of such ability. He had known him a considerable number of years, and greatly respected him as an honourable and upright member of the profession. He concluded by thanking them for their kind invitation, which he had been able to accept, and by saying how much he had enjoyed the evening's proceedings.

Dr. WOOD expressed his indebtedness for the magnificent hospitality and for the very kind way in which they had spoken of the medical profession. The two professions were inseparable. The medical depended on the veterinary for many things which the former were unable to find out. At present there was a very close association between the professions—closer, perhaps, than ever before. The Pathological Society could not prosper without the help of the veterinary profession.

Mr. CLARKSON also replied briefly, and the toast of "The Ladies" having been given by Mr. NOAR and acknowledged by Mr. HARRY LOCKE, the proceedings, which were enlivened by the Doric Quartette Party, terminated.

NORTH OF SCOTLAND VETERINARY SOCIETY.

A MEETING of the above society was held in Marischal College, Aberdeen, on Saturday, 29th January. Mr. Anderson, veterinary surgeon, Fife-Keith, President of the society, occupied the chair, There was a large and representative gathering of veterinary surgeons. Amongst those present were Professor Young, Aberdeen; Mr. G. Barron, Echt; Mr. G. Howie, Alford; Mr. A. Seivwright, Tarland; Mr. A. S. Bell, Fraserburgh; Mr. J. Murray, Cullen: Mr. J. McBryde, Strichen; Mr. W. Marsden, Banff; Mr. J. Pringle, Ellon; Mr. J. MacDonald, Dufftown; Mr. D. Morrison, New Deer; Mr. L. McLaren, Brechin; Mr. A. Paterson, Cluny; Mr. A. D. Dunbar, Nigg; Mr. Crabb, Aberdour; Mr. W. McPherson, Huntly (Secretary to the Society), etc., etc. The President in his inaugural address made special reference to the position of the profession in regard to the new Public Health (Scotland) Act, and the responsibility which would fall on veterinary surgeons in connection with meat and dairy inspections if the local authorities carried out the Act to the full. In conclusion, he pointed out that local authorities would likely deal with the optional sections of the Acts after the commission on tuberculosis issued their findings. Thereafter papers were given by Mr. McLaren, V.S., Brechin, and Mr. Howie, V.S., Alford, on milk fever and the treatment of laminitis respectively. Both papers were of the highest merit, and evoked an interesting discussion from the members present. The society meets half-yearly, and papers for the next meeting were promised by Mr. Murray, V.S., Cullen, and Mr. Paterson, Cluny. Mr. Edgar, Inverness, was proposed a member. A vote of thanks to the Chairman concluded the meeting.

YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

THE annual meeting took place at the Queen's Hotel, Leeds, on Friday, the 28th January. Mr. F. W. Greenhalgh, of Leeds (the newly-elected President) was in the chair, and the attendance included Messrs. A. W. Mason, G. E. Bowman, Frank Somers, S. Wharam, H. E. Bowes, Leeds; M. Robinson, Barnsley; J. W. Lazenby, Boston Spa; George Whitehead, Batley (the retiring president); J. E. Scriven, Tadcaster (treasurer); J. Clarkson, Garforth; H. Sharry, York; S. Chambers, Huddersfield; James Cooke, Scarboro'; J. S. Carter, Bradford; J. Abson, Sheffield; J. Atcherley, Harrogate; C. Briggs, Halifax; P. Deighton, James Brand, Leeds; William Hunting, London; and Mr. A. McCarmick, Leeds (hon. secretary). The following visitors were also present: Messrs. J. B. Wolstenholme, E. Faulkner, W. A. Taylor, H. Locke, Manchester; A. W. Lane, Leeds; J. McKinna, Huddersfield (president of the Lancashire Society), and G. Elphick, Newcastle.

Letters of regret at inability to be present were read from Principal Williams, Professor McFadyean, Professor W. O. Williams, Professor Pritchard, Mr. Fletcher, Sheffield; Mr. Smith, Barnsley; Veterinary-Capt. Nuttall, Leeds; Professor Dewar and Principal McCall.

Nomination and Election of Members.

Mr. WHARAM nominated Mr. W. W. Norwood, of Conisboro', as a member of the Association. The Nomination of Mr. Peach, of Rotherham, was made by the Hon. Secretary, and Mr. McLean, of Dewsbury, was nominated by Mr. Whitehead.

On the motion of the Secretary, and seconded by Mr. Wharam, Mr. Robert White, of Wakefield, was elected a member.

The Election of Council.

The Secretary of the Lancashire Society (Mr. W. D. Chorlton), wrote asking the Yorkshire Association to pay their share of the expenses in connection with the election to the Council last year, and it was agreed to comply with the request, on the proposition of Mr. LAZENBY, and seconded by the SECRETARY.

Visit of the National Society to Yorkshire.

A discussion took place with reference to the proposed visit of the National Society to Scarborough during the second week in August. On behalf of the Provisional Committee, Mr. Somers sent a communication that it had been decided to leave the "form of entertainment" to follow the dinner, which is held on the first day of the meeting, in the hands of the Yorkshire Association.

The PRESIDENT said he understood that some difficulty had arisen with reference to accommodation at Scarborough. He asked whether any definite decision had been arrived at by the National Society.

Mr. SOMERS explained that the meeting would either take place at Scarborough or in Leeds.

Mr. WHARAM announced his intention of moving at the next meeting the formation of a committee, consisting of the president and four members of the Yorkshire Association, to provide entertainment for the National Society on the occasion of their visit to Yorkshire, a course which met with the approval of the meeting.

Defaulting Members.

In accordance with notice of motion, Mr. G. C. BOWMAN brought forward a resolution that every member who had not paid his subscription to the association for four years should be struck off the lisf of membership.

Mr. WHARAM seconded.

In reply to Mr. Whitehead, the TREASURER mentioned that some subscriptions were more than four years in arrear.

Mr. WHITEHEAD thereupon supported the resolution, which was adopted.

The Summer Meeting.

At the last meeting a resolution was adopted, on the initiation of Mr. Scriven, in favour of abandoning the summer gathering. It transpired, however, that such a proposal should come before the annual meeting, and accordingly Mr. Scriven again brought it forward, explaining that he did so on the ground that the summer meeting was never well attended, members either being holiday-making or engaged at shows.

Mr. BOWMAN seconded, and Mr. CLARKSON supported the resolution, which met with unanimous approval.

It was resolved to further adjourn the discussion on Principal Williams' paper dealing with blood diseases.

Presidential Address.

BY MR. F. W. GREENHALGH, M.R.C.V.S.

The PRESIDENT observed that it was a time-honoured, and undoubtedly a beneficial, custom that at the annual meeting of scientific associations—such as the Yorkshire Veterinary Medical Society—and other bodies, the president for the current year should deliver an address in the nature of a review of

the past year, and of the progress which has been made in the researches and experiments of those who had formed themselves together for the purposes of upholding the dignity and utility of their noble profession to which they had devoted themselves. The eminence and prestige to which the veterinary profession had attained might have been slow, but by gradual stages of enlightenment and individual ambition, there had been advancement and improvement, and he could not but reflect with sincere and well grounded satisfaction on the progress of their own association since its formation 25 years ago. For some years he held the position of secretary to the Society, and was proud that he had been thought worthy of the responsibility of that position. The fact was a pleasant reminiscence to him. When the time came that he should make way for a brother practitioner as his successor, they did him the honour of recognising what services he had rendered by the presentation of a handsome testimonial. Since that time the Association had made rapid strides, and at the present time he thought it might be said to be one of the best institutions of its kind in Great Britain, as regarded its numerical strength, its educational importance, and its professional influence, as well as for the mutual respect existing among its members, and the cordiality and generosity with which from time to time those who had been chosen to preside over the affairs of the Society had been welcomed and supported. To him it had always appeared that there was a spirit of chivalry animating the members which was not always found among what might be considered to be kindred institutions. No less, he was bound to say, had they occasion to be proud of the enlightenment and co-operation which had so frequently been afforded to them by pre-eminently distinguished members of their profession. They had also felt that the halo of the presence of some brilliant professor of the veterinary art had usually added to the lustre of their gatherings, and the advice and experience of those gentlemen had benefitted them, and from personal experience he believed that those gentlemen appreciated the welcome that the members of the Yorkshire Association had extended to them. They had also occasionally to acknowledge the courtesy and sympathy shown to them by visitors from sister veterinary associations, and especially from the neighbouring county of Lancaster. The members would, he felt sure, join with him in the hope and belief that both in the immediate and remote future the Association would never in vain solicit a continuance of such fraternal and invaluable countenance, encouragement, and assistance. He asked the assistance of each and all of the members in conducting the affairs of the Association creditably in every respect during his year of office, and impressed the desirability of unremitting attendance at the periodical meetings. There should be, and he hoped there was an *esprit de corps* in all such institutions as theirs, and there was no more certain or effectual way of maintaining it among themselves than by rallying from time to time around their President, when the hon. secretary had served them with the customary reminder that "Yorkshire expects every veterinary surgeon to do his duty." There were, continued Mr. Greenhalgh, several professional topics on which they might consider that he ought to enlarge, but he would only refer to one or two subjects.

In the first instance, he would briefly but emphatically mention the disadvantage some of them were put to from a pecuniary point of view, by reason of the Royal Society for the Prevention of Cruelty to Animals selecting a particular practitioner for consultation and to give evidence in their cases. This system had, he said, a terrorising effect upon many owners of animals who felt that any day they might be at the mercy of the Society's surgeon. That meant to the detriment of any other practitioner who they might have been employing before.

Then the present regulations for the inspection of meat constituted a crying grievance which the members of the Association could not too strenuously oppose. It surely was requisite that a veterinary surgeon should be the paramount inspector as to whether the carcase of an animal was fit for human food or not; he had been educated and was able to determine if any disease existed, what that disease was or was not. But at the present time, in the majority of cases, the meat inspection was left to a man who had no pathological or anatomical knowledge whatever. This was an incongruity which should receive the attention of the local authorities, without the least delay, in the interests of all classes in the community.

The recent frontier campaign in India indicated distinctly the value of the transport service, and in the face of the difficulties which that branch of the service had had to contend with and presumably to be able to carry out, was due to a great extent to the efficiency of the veterinary officers, and he should be only too pleased to see in some of the generals' dispatches some recognition of their services.

There were other salient matters which, if time had permitted, should have found a place in his address, but he was sure it would not fail to occur to them to inquire into and come to a resolution respecting them for themselves.

They were soon to have the National Veterinary Association visiting Yorkshire to hold their annual meeting, and he hoped and anticipated that advantage would be taken of the opportunity by all of them to join the National, or, as he would prefer to designate it, British Confederation, thereby showing that they of the body corporate in Yorkshire were not behind-hand in endeavouring to promote and consolidate the welfare of the profession. He thanked them sincerely for the attention they had given to his remarks, which he trusted would not be too lightly esteemed, nor unproductive of good results, both as regarded the strength of membership and the intellectuality of their future proceedings.

Mr. WHITEHEAD proposed a hearty vote of thanks to the president for his address; and the resolution having been seconded by Mr. CARTER, was carried with acclamation.

The Dinner.

Subsequently the dinner was held. Mr. G. Whitehead (the retiring president) presided over what proved a most pleasant reunion. The company included many of the members and visitors present at the business meeting.

After the loyal toasts had been honoured,

Mr. GREENHALGH proposed "The Royal College of Veterinary Surgeons." He said he was given to understand that the four years' course which had been inaugurated by the council was working satisfactorily, and he hoped it would continue to do so. The change had, he was told, depleted somewhat the number of candidates, thereby decreasing the income of the college, so far as the examination fees were concerned. It was high time that the college should raise the standard of education, and he quite concurred in what the council had done. He thought the apprentice clause ought to be insisted upon. He congratulated them that the veterinary medical profession was at last receiving some recognition, referring particularly to the honour of knighthood that had been conferred upon Mr. George Brown. He was of opinion that some representation should be made to the Board of Agriculture in regard to the treatment of local inspectors.

Mr. A. W. MASON, in response, said that the proposer of the toast had touched upon the four years' course, which was an absolute necessity, if they desired to keep with the times, and on the same lines as other professional bodies. They must keep in touch with the higher education of the day, and have their students educated as well as other students,

whether law or medicine. Pupils were not so numerous as they were, and that fact, as Mr. Greenhalgh had pointed out, affected the funds of the College. It was known in the profession that lately they had had to sell a few consols to maintain the establishment of the College. With regard to the Registration Committee of the College it had been alleged that that body was a sort of Star chamber. That gentleman who made that allegation in an article must have been very much in the dark as to the manner in which the Registration Committee conducted its proceedings. It was wrong to say that the committee condemned any man unheard.

Mr. ABSON also replied. He remarked that personally he thought they would do well with some depletion of students; at the same time they could not do with a depletion of the funds of the College. They had been sorely tried with regard to their funds, which were not so good aa they ought to be, but they were a long way from bankruptcy yet. However, should the necessity arise he hoped some means would be devised whereby they could replenish the funds. There was, he contended, a good deal of misunderstanding with regard to the work of the Registration Committee which, at the present moment, was the most important committee of the Council. He entirely agreed with what Mr. Mason had observed, that every man had a fair hearing; there was not anything under-handed at all. The remarks in a certain journal were very misleading indeed, and the members of the Registration Committee felt them very much at the time. He could assure them that the work of the Council was not all honey; they had a lot of hard work to perform. The various committees had a lot of labour of which outsiders could know very little, and they gave both of their time and money gladly in the solution of the problems which came before them. He was quite sure that the company appreciate that labour of the Council for the benefit of that which they all had at heart, viz., the veterinary profession.

Mr. J. COOKE next introduced the toast of "The Examiners," and in doing so observed that one probable reason given for the diminution of students at the college was that young men were somewhat dispirited by the motor-vehicular traffic. Personally he had no doubt that at some future period this traffic would interfere with the practice and reception of equine practitioners, and consequently it behoved them to look round the corners and seek fresh fields for their services. He was pleased to notice that already the endeavours of veterinary surgeons, in regard to influencing members of Parliament in connection with the Scotch Public Health Bill, had been successful. The measure was a step in the right direction, and he hoped before long to see its principles applied to England.

Mr. J. B. WOLSTENHOLME, after acknowledging the hearty way in which the toast had been proposed and honoured, and the kind hospitality extended to him and other gentlemen, made humourous reference to the gastronomic exercise, because he had, he said, noticed that when the gastric function was active his brain was specially torpid. Thus he sought to excuse any shortcomings in his reply, and to lay the blame on their "good cheer." They were all glad to note that the educational attainments of the people of these islands had increased and were increasing. As a consequence the professions had raised the standard of general education which the would-be student must pass before they would undertake to give to him the special education that he desired. This was true as applied to the veterinary profession, but it was not all the truth. In time past they had been content with an entrance examination inferior to that demanded by the medical profession: they had extended and stiffened that examination. The veterinary profession, on their part, had not been content to merely advance so as to keep their examination in the same relative position as the medical: it had adopted the standard of that profession, which was indeed an advance to be proud of. With a raised standard of general education they had extended the period of

special training to four years. The art of teaching, he might remind them, had advanced as much as any other, during the past twenty years, while the same must be said as to improved text-books, instruments, and general teaching appliances. Could all this be true and not leave its impress on the veterinary student ? Could one imagine that the newly qualified practitioner was less fitted for his vocation than he of twenty years ago. It could not be true, and speaking for himself, as he had felt constrained to do so before, he was well sure that it was far better trained and more perfectly equipped than at any previous period. If they expected a student to possess the confidence and surgical skill of an experienced man, or to have all his clinical acumen they should be disappointed, for such was not possible, but he felt confident that the newly-graduated member of their profession was as well qualified for his duties as those of any other profession. Reference had been made to changes consequent upon the new applications of motor force. At the advent of the locomotive steam engine the pessimistic onlookers said that the usefulness of the horse would largely become a thing of the past ; now they were again face to face with a new form of mechanical progression. Personally he had long been of opinion that tramway work was the least suitable of all forms of traction for the horse. But not only was steam and electricity supplanting horses for tramway purposes, but the motor vehicle has also entered the lists in competition. It is quite possible that these changing conditions must in some degree be detrimental to the equine practitioner. The members of the veterinary profession were as patriotic as any others in the community, and all changes when made for the general good would be cheerfully accepted. They had not simply stood by and offered their services when animals were sick and wounded, but they had done their best to educate their clients how best to prevent them from contracting disease, and in the case of certain highly contagious ones as cattle plague, pleuro-pneumonia, etc., they had persistently urged that no treatment should be adopted, and that slaughter of those affected and of those which had been in contact was the only safe method. This method was ridiculed and opposed in times past, involving enormous loss to the country. In the end it was adopted, and the result had more than proved its utility. There was one form of special training they received which he thought was overlooked by the general public, and that was the use they must be to the community in connection with certain diseases of animals which were communicable to man, and also in the examination of meat and milk supply, cowsheds, etc. Every veterinary surgeon of experience knew that animals suffering from infectious, loathsome diseases, were killed and dressed and sent to the big towns as for man. He had known of animals suffering from anthrax, consumption, and many other diseases being so sent. They knew that milk was constantly being collected from cows far advanced in consumption, and not infrequently from cows with diseased udders. The meat was inferior, and probably only purchased by the poor who often, by the insanitary conditions under which they live, were less able to withstand the in-nutritious and poisonous food thus sold to them. Then again, milk was the staple food of infants and invalids, and there was no doubt, in his mind, that the latter played an important part in the dissemination of tuberculosis. Special attention was now being paid at their veterinary colleges to training the students to recognise diseased meat, and meat which being infested with parasites or having been improperly killed or preserved, was unfit to be used. Again, their attention was particularly directed to all the sanitary details in connection with cows kept for supplying milk, as well as to improved means of manipulation sterilization. This training was safeguarded to the public by forming one of the subjects of examination for membership. Having thus briefly put the case he would respectfully urge upon the community the necessity

which existed for employing this special knowledge. He would suggest that a veterinary surgeon should be attached to the Health Department in connection with every municipality and local board. The value of this expert knowledge would, he was sure, quickly be recognised by those who had the management of those departments. In this connection he was pleased to note the advance which had been made in his native city of Manchester, for whereas until quite recently the duties of meat inspection were relegated to untrained incompetent people, the authorities in that city first commenced by appointing one, and had now extended the number to three veterinary surgeons; whose sole duty was to serve the corporation in this capacity.

"The Veterinary Schools" was given by Mr. BRIGGS, who thanked the Council for the firm stand they had taken with regard to the introduction of the gentler sex in the veterinary medical profession. He regretted, and he thought most of those whom he was addressing regretted, that the thing was allowed to go even so far as it did.

Mr. CLARKSON, in response, alluding to the admission of ladies into the veterinary profession, said he thought they would be quite out of place. They had so much work which certainly was not fitted to ladies. Mr. Briggs had a great love for his old master, Mr. Brown, and he (Mr. Clarkson) had equally a great love for his old master, Principal Williams.

Rising again, Mr. CLARKSON gave "Other Veterinary Medical Societies." These societies, he observed, were doing a great work. He could hardly understand a man who took an interest in his profession, not being a member of the society in his district. It must, indeed, be a poor meeting from which each one did not go away a little the wiser. There had been a proposal for the union, should he say, of the veterinary societies, and if it could be brought within the range of "practical politics," he thought it would be a good thing, for, as a profession, they had many foes who assailed them.

Mr. MCKINNA, in replying, said it must strike some of them as being strange that although he was in practice at Huddersfield, he was not a member of the Yorkshire Veterinary Medical Association. He confessed that he ought to be, but the fact was that some years ago he was introduced by his late master to the Lancashire Association, and he met with such good friends at Manchester, that he seemed to have settled among them. All the same he wished the Yorkshire Association every success. As Mr. Clarkson had pointed out, these societies were of great importance, both professionally and socially. They could not gather together, either at the festive board or at a meeting, interchanging opinions, without being the richer for it. Reciprocating the kindness shown to him on that occasion, he gave a hearty invitation to Yorkshire members to the annual dinner of the Lancashire Society at Manchester that day week.

Mr. HUNTING followed in response to toast. Mr. Clarkson had, he observed, dwelt upon the utility and necessity of these societies, and he endorsed his observations absolutely. The societies were extremely useful, they were really necessary. They were useful in spreading information, and in helping them all to get rid of some errors and foibles which they had managed to foster, and to pick up new ideas. He, himself, felt specially indebted to these societies. He found that he never went to one of the meetings without receiving some benefit. He failed to understand the position of a certain man who was said to have declined to join one of the societies for two reasons—first, that he was not going to listen to the nonsense that people spoke; and, secondly, that he was not going to the meetings to tell them what he knew. Allusion had been made by Mr. Clarkson to the union of the societies. Just now an attempt was being made to form something of a connecting link between all the societies. It was not desired to

extinguish any of the societies or to do away with their independence. It was not desired to have one society to rule all the others, but it was desired to try and get a link between the National, which covered the whole country, and the local associations. The idea was that such a union would make them all more interested, not only in the National but also in their own local and kindred societies. There was a financial difficulty. He thought he might safely say that if that difficulty could be surmounted, and if they could get a connecting link between the whole of the societies, it would mean a strengthening of the veterinary profession; at any rate, it would make every local society take a greater interest in the National, and would increase the membership of the National and local societies.

In proposing "The Veterinary Defence and Mutual Benevolent Society," Mr. Bowman said he regarded the society as one of the best that had ever been formed in connection with the profession. He had for many years been a member of it. Personally he had never had to apply for any assistance, but he was acquainted with those who had, and they had always received the best of help. He believed that when practitioners were members of the society it very often prevented them from having law suits. Moreover, membership saved a great deal of anxiety of mind. He believed that the Society had adopted a new rule, whereby any deserving case was considered, although the deceased husband had not been a member.

Mr. CARTER, acknowledging the toast, remarked that he had been a member of the Society from its commencement, but, like Mr. Bowman, he was glad to say that he had never needed assistance. He thought it was a society which ought to be very much encouraged. Speaking as a member of the Council of the Society, he believed they had something like £3,000 invested. He was surprised that the membership was not larger.

Mr. J. E. SCRIVEN, whose name was also coupled with the toast, said his experience was like that of Mr. Bowman and Mr. Carter—that he had not received any assistance from the Society. It behoved every member of the veterinary medical profession to join it. He had had the honour of being on the Council for six years, and he was in a position to say that every case which was brought forward was minutely gone into. If they saw the slightest chance of defending they did so, and they had been very successful, except last year in one case which cost something like £200. As to the financial position of the Society, they had a sum of £458 12s. 5d. in the Defence department, and in connection with the Benevolent there was a sum of £3,400 invested.

Mr. FRANK SOMERS then proposed "The Visitors," to whom he extended a most hearty welcome. He added that there had always been a bond of union between the Lancashire and Yorkshire Associations.

Mr. TAYLOR suitably acknowledged the great hospitality which had been shown to the visiting friends, and assured them that although the battle of the roses might never be literally fought out again, the red rose of Lancashire would on all occasions be pleased to welcome at the festive board the white rose of Yorkshire.

Mr. E. FAULKNER said he hoped that nothing would ever be done to sever the bond between the Yorkshire and Lancashire Associations, but that as time went on the union would be connected still more strongly.

Mr. LANE and Mr. LOCKE also replied.

"The Ladies" was submitted by Mr. NEWSOME, and Mr. SCRIVEN was called upon to respond.

Mr. GREENHALGH proposed "The Chairman," and the toast was heartily pledged, and with a brief reply from Mr. WHITEHEAD the proceedings terminated.

The toast list was agreeably interspersed with music by several members,

and a recitation from Mr. Briggs. Much of the success of the gathering was, it should be stated, due to the excellence of the arrangements of Mr. McCarmick and Mr. SCRIVEN, the Hon. Secretary and Hon. Treasurer of the Yorkshire Association.

THE NORTH OF ENGLAND MEDICAL VETERINARY ASSOCIATION.

ON Friday, February 25th, the annual meeting of the North of England Medical Veterinary Association was held at the County Hotel, Newcastle-on-Tyne. Mr. G. Elphick, President of the Association, occupied the chair, and there was a fair attendance of members. Letters of apology were read from several gentlemen, who regretted their inability to be present.

After the transaction of the ordinary business, the PRESIDENT, who was received with applause, said it was usual at annual meetings such as that to give an inaugural address, but as this was the fourth time, and the third in succession, that he had had the honour of filling the presidential chair he would not detain them with a long address. In the course of his speech Mr. Elphick asked the members to accept his sincere thanks for again electing him to such an honourable position (which he had felt it incumbent upon himself to accept as no one else was willing to undertake the duties), and made an earnest appeal to the members to give him their hearty support and co-operation. He pointed out the benefit to be derived from association with an institution such as the one he had the honour to preside over, which not only improved the science and art of veterinary medicine and surgery, but protected the interests of the profession. After dealing with the objects and utility of the society, as well as the duty of individual members, Mr. Elphick exhorted the members to regularly attend the meetings, where much useful information was to be picked up, and where they met friends and did their best to elevate the profession to which they belonged.

On the conclusion of the Presidential address Prof. Williams, of Edinburgh, delivered a most interesting and instructive lecture upon "Tetanus and Anti-tetanine." The Professor, who on rising was received with applause, genially remarked that it was really too bad that the Society should have to depend upon old worn-out war horses like himself and others for papers. He called upon the younger members to come forward, who, if they did not teach them anything, would benefit even by their mistakes.

The lecturer ably dealt with the effects of tetanus, its prevention and probable cure. After traversing the symptoms of the disease, he said that tetanus must now be attributed to one cause only, and that which we had considered, and for many years had been taught to believe was idiopathic tetanus, was obscurely traumatic in its origin. That in every case there must be an abrasion through which the organisms first gained access to the tissues from the soil and surroundings, thus contaminating it.

In the history and knowledge of the present day, he said, it seemed impossible for the tetanus bacillus to gain access into a wound through the circulation, as it was found in demonstration that the bacilli surrounding wounds are in the connective tissue immediately surrounding the seat of injury, and the more fibrous found at the seat of injury, the greater the tendency there is to tetanus, because the fibrous tissue attached seems to be the most constant habitat of the tetanus bacilli.

The professor enumerated the diseases with which tetanus may be confounded, and after dealing extensively with the bacilli, its resistance, and the characteristics observable on post-mortem examinations, he proceeded to demonstrate the preparation of the tetanus anti-toxine and its preservation for use, as well as its properties and application. He recited several instances

which had come under his notice in which inoculation had been efficacious, but intimated that the cases in question would most probably have recovered under ordinary treatment. He further pointed out that if tetanus is not developed in its intensity within a week after its onset, no matter how severe the symptoms may become at the end of nine or ten days, there is a chance of recovery, but if, on the other hand, tetanus is well marked within the first three days, and the symptoms are very severe, there is practically little hope of recovery, which, he said, might possibly be attributed to the fact that the anti-toxine acts as it is absorbed into the system in a slow manner, thus giving the cases which take a more prolonged period a better chance of experiencing its effects.

The professor pointed out that the serum of immunised horses was preventive of tetanus. Its properties in this direction having been demonstrated in the fact that an injection of a dose of it into an animal immediately before or after the injection of a fatal dose of tetanus toxines, was found to be capable of neutralising these toxines, and preserving the life of the animal. But although preventive it was not curative, as, by the time the visible symptoms of tetanus have declared themselves the poison has been working its ill-effects on the body tissues, producing alterations in the nervous system which the antitetanic serum is useless to counteract.

He also pointed out that the action of the tetanus poison was somewhat similar to that of strychnine, but that while strychnine shows its characteristic effects soon after being taken, the tetanus toxine, injected subcutaneously in a vital dose, requires an incubative period of from 24 to 36 hours, during which time the changes are worked in the tissue, against which anti-tetanine is powerless.

After giving an account of several successful cases of the anti-tetanine treatment, and dealing further with the preservation of the serum, Professor Williams averred that the anti-tetanic treatment of tetanus was a subject in which there was yet room for a great deal of careful research and much observation. He then exhibited some microscopic photographs of the respective bacilli of louping-ill and tetanus, which, he said, resembled each other in a remarkable degree.

Several of the members present gave their experience of the anti-toxine treatment, and the consensus of opinion seemed to be that, although it had been found efficacious in several cases, the animals would probably have recovered without its aid.

After the meeting the annual dinner was held, at which well-known local medical practitioners were present, and a thoroughly enjoyable and harmonious evening was spent.

Diseased Meat in Edinburgh.—In Edinburgh Police Court, on Saturday, before Mr. Gulland, a petition was presented asking that an order of condemnation and destruction should be passed on a cow which had been seized in terms of the Public Health (Scotland) Act, 1897, in an auction mart in the city by one of the veterinary surgeons appointed by the local authority. The cow was the property of Mr. Pringle, Morton Street, Leith. Mr. Young, inspector of markets, said he saw the animal being driven in, and in his opinion it was markedly diseased. He called in the assistance of a constable, and had the animal seized. She was very thin, and had "a very hard cough," and there was no doubt she was suffering from some wasting disease which rendered her totally unfit for human consumption. Mr. Thomson, another inspector, said the cow was what was called a "piner." She was thoroughly emaciated, and was suffering from some wasting disease. Mr. Pringle said they sold all their cows at the same mart, and he was not aware that every

animal sent there was intended for the food of man, as a purchaser might go the length of the price only of its hide. He had no objection to the destruction of the animal. The magistrate granted the prayer of the petition. Under the same Act, the carcase of a sheep in a very bad condition, consigned from St. Boswells, and seized at the Waverley Station, was also ordered to be destroyed.—*North British Agriculturist.*

CONTAGIOUS DISEASES ANIMALS ACT, 1894 and 1896.

SUMMARY OF RETURNS OF OUTBREAKS, for the four weeks ending February 19th, 1898.

ENGLAND AND WALES.

Pleuro-Pneumonia.	Swine Fever.	Glanders. (including Farcy).	Rabies.	Anthrax.	Sheep-Scab
Outbreaks confirmed 0 Found diseased 0 Slaughtered 144	Outbreaks 197 Slaughtered 4,052	Outbreaks 71 Attacked 96	Dogs 2 Other animals 0 Destroyed 60	Outbreaks 26 Attacked 42	Outbreaks 674

SCOTLAND.

None	Outbreaks 6 Slaughtered 275	Outbreaks 1 Attacked 13	None	Outbreaks 16 Attacked 22	Outbreaks 40

IRELAND (for four weeks ending February 12th).

None	Outbreaks 25 Slaughtered 351	None	Dogs 2 Other animals 2 Destroyed 4	Outbreaks 1 Attacked 6	None

FARCY OF THE TRACHEA.

BY M. ED. NOCARD.

(Read before *La Société Centrale de Médecine Vétérinaire.*)

THE trachea which I have the honour to submit to you for inspection, is that of a horse slaughtered for glanders. It had neither chancre, swollen gland, nor discharge; but it presented in a marked degree all the signs of Abodian

glanders. Sometimes in the stable, more often when at work, it would suddenly be taken with violent fits of coughing, ending almost in suffocation, during which it discharged through its half-opened mouth perfect showers of muco-purulent matter. For a long time it remained in good health, as far as appearances went, doing its work easily and keeping in good condition; then as the fits of coughing increased in intensity, it began to grow thin and get out of breath when at work. At last one of its stable-mates, recently purchased, was found to be glandered, and slaughtered. It was then that its owner decided to ask my advice. When the animal was brought into the hospital, it was still in pretty fair condition; but its coat was dull and slightly spotted; no discharge nor swollen gland; temperature 39°4 in the morning, 39°8 in the evening; respiration frequent, short, and jerky; mucous rattlings on auscultation; sonorousness preserved when percussion applied. The cough, which the owner said was frequent and came on in fits, was easily provoked by pressure of the larynx; it was heavy, deep, painful, and followed by recall; during the fit, the animal stretched out its head back over the shoulders and neck, lowered so far as to become horizontal, half opened its mouth; its tongue was of a violet hue and hung out a little; after the fit, the animal chewed and swallowed.

Keeping the tongue outside of the mouth, so as to stop deglutition, we succeeded in collecting thick, purulent mucosities, which the violent efforts of coughing projected into the mouth and even on to the ground. This muco-pus inoculated into male guinea-pigs by intra-peritoneal injection, gave them two days afterwards an intense and inflammatory form of orchitis; microscopic examination and culture of the pus of the sheath showed that this orchitis was of a glanderous nature; the animal, being feverish, could not be subjected to the mallein test. On autopsy, the lungs were found crammed with old glanderous lesions (caseous or soft foci) and miliary tubercles in all stages of development; the nasal cavities and the larynx were immune; the trachea, however, was the seat of curious and rare lesions which I have the honour to submit to your notice. As you can see, two big farcinous cords, of the thickness of a man's thumb, run along the posterior face of the tube, almost to its very top; they have developed in the sub-mucous cellular tissue, and adhere only feebly to the mucous membrane, which they push in so far as to reduce by one half the antero-posterior diameter of the trachea. Their walls, hardened and fibrous, are more than a centimetre thick; they are irregularly cylindrical with swellings here and there, on a line with which the tracheal mucous membrane, adherent and wasted, is extensively perforated; at the bottom, not far from where the great bronchi take their rise, these two cords unite and meet in an irregular cavity, which has a large opening into the trachea and is covered with buds. At the moment of autopsy, this pouch was full of thick mucous pus slightly striated with blood. By pressure of the cords from top to bottom some pus was made to ooze out through each of the perforations which put them in communication with the cavity of the trachea. Inoculated into male guinea-pigs, this pus in a few days set up in them the characteristic glanderous orchitis.

To sum up, then, this case is one of an old farcinous lymphangitis of the trachea. It is one of the rarest lesions I have yet met with in the course of the numerous autopsies of glanders which I have had occasion to make. A curious circumstance is that I got a second example a few months after the first on autopsy of a horse suffering from chronic glanders with swollen glands and discharge. As you may see, it is again a case of an induration of the sub-mucous lymphatic vessels of the posterior face of the trachea, with ampullary dilations opening broadly into the trachea; the lesion is less intense than in the former case, bnt it has the same appearance and the same

origin; in this case, as in the former, the pus of the indurated lymphatic gave glanders to the guinea-pigs inoculated therewith.

2. *Acute Glanders with Lesions of the Kidney and without Pulmonary Lesions.*

The fragments of kidney which I submit to your notice are from a horse 2½ years old, slaughtered on the 13th November last as suspected of acute glanders. They enclose, as you see, whitish, hard, homogenous productions of pyramidal form, from the capsule to the infundibulum. In their fresh state, squeezing caused little drops of pus-like, thick and viscous matter to ooze out over the surface. They are, indeed, infarctuses analogous to those of purulent infection or of strangles. Bacteriological examination, culture, and inoculation showed their glanderous nature. By reason of their extreme rarity, these glanderous lesions of the kidney deserve to be noted. The horse in which they occurred was interesting for other reasons. It had at first seemed to have strangles; its age, the thick and whitish discharge which it voided through both its nostrils, its noisy breathing, the swelling in the space between the branches of the lower jaw, all seemed to justify this diagnosis. Soon there appeared on the pituitary membrane and on both sides, a great number of wounds with irregular contours, isolated or confluent, rather projecting over the surface of the mucous membrane, elsewhere pink and of normal aspect. Round about these wounds, the finger found on the intact mucous membrane little rounded and pretty hard nodosities. It was then thought to be horse-pox. A calf was inoculated with the discharge, without the slightest eruption taking place. An injection of mallein—which, unfortunately, took place under bad conditions, the animal being feverish—produced only an insignificant hyperthermia. There was no local or organic reaction noticed.

After a month of observation, its state going from bad to worse, and as the animal would no longer eat, and remained lying, it was decided to have it slaughtered. On autopsy, the pituitary membrane was almost entirely covered with ulcerous, projecting wounds, covered with buds, and without any induration of the periphery. The larynx and trachea were quite healthy. *The lungs were absolutely sound.* The right kidney was hypertrophied, and had on it five or six big infarctuses similar to those I have shown you. An abscess, the size of a walnut, was found in the extremity of the epididymis of the right testicle. The lymphatic ganglia of the great colon were hypertrophied, and for the most part caseous and soft. The result of the autopsy remained doubtful; the veterinarians present did not agree as to the nature of the lesions, one saying glanders, two others strangles; it was decided to send me the whole, in order to settle the question. I confess that at first sight I was very much embarrassed; the perfect soundness of the pulmonary apparatus at the time when the infection was generalised over the mesenteric ganglia, the testicle, and, above all, the kidney, made me doubt the existence of glanders. It was, however, a clear case of glanders; the testiculary pus, the juice of the infarctuses of the kidney, the caseous matter of the ganglia of the colon enclosed the Löffler bacillus in pure culture, and inoculation showed its extreme virulence; the specific orchitis appeared less than thirty-six hours after inoculation, and the guinea-pigs succumbed from the fifth to the eighth day after it. This observation shows that if the pulmonary lesions are the most constant and the most characteristic in glanders of the horse, they may yet sometimes be wanting. In consequence, we must not limit ourselves to examining the lungs, as generally takes place in autopsy of a suspected horse. The soundness of the lungs is not sufficient for forming the conclusion that the animal is not glandered; specific lesions may exist else-

where, search after which may be a very troublesome business, seeing that they may settle in the thickness of any lymphatic ganglion whatever, and that they have not, like those of tuberculosis, a colour and a consistency which allow of their being easily found out in the depth of the tissues.

3. *Tuberculous Ganglion.*

Tuberculosis of the horse is relatively rare; we are, however, acquainted with one or two hundred observations: for my own part, I have collected more than twenty. At one time it was a case of the abdominal type, the clinical diagnosis of which is relatively easy, when the lesion has extended to the sublumbar ganglia; at another time it was a case of the pulmonary type, which can hardly be recognised without inoculation of discharge, or without the results of the injection of tuberculin. But I had never seen the lesion attack the ganglia of the region of the maxillary cavity to such an extent as to be mistaken for a glanders-gland. I have, however, just collected a fine example.

It is a case of a horse five years old, bought in the North of France for the army. The animal had contracted the disease at the Montrouge dépot. On its arrival the animal had to be isolated because of a small gland, rounded, swelling, very hard, hardly movable at all, and not adhering to the skin; no discharge; pituitary membrane absolutely normal. It was malleined on three successive occasions, with a month's interval between; hyperthermia never reached 39°; there was never the slightest reaction, local or organic. The swelling of the gland persisted with the same suspicious characteristics. Acting on the advice of M. Thomas, M. Rigollat, the veterinary surgeon of the depôt, excised the gland and sent it to me. It was as big as a small walnut and resulted from the agglomeration of ganglionary nuclei, hypertrophied and of a wooden hardness, united in a common matrix of fibrous tissue; in the centre of each indurated nucleus was a thick caseous body, as if infiltrated here and there with fine calcareous granulations; you might have said it was mastic in which flinty sand had been mixed. This caseous pus I first used to inoculate several guinea-pigs and to sow some potatoes, tubes of gelose, and peptonised bouillon. I afterwards made a bacteriological examination of it. I found no microbe analogous to the glanders-bacillus; on the contrary, there was a great quantity of Koch bacilli; it was therefore a case of a tuberculous ganglion. I immediately informed M. Rigollat of the fact, and urged him to subject the animal to the tuberculin test. The result was quite conclusive. An injection of five cubic centimetres of diluted tuberculin caused an intense hyperthermia which persisted for more than thirty hours; the animal was therefore very tuberculous. What was to be done with it? Should it be handed over to a cavalry regiment at risk of creating a focus of tuberculous infection there? By advice of M. Thomas, M. Rigollat proposed putting it on the sick list, and the Minister of War decided that the animal should be handed over to the Alfort School to be the subject of thorough study and scientific research. I had it at my service for some weeks. Subjected to a new injection of tuberculin, it reacted exactly the same as it did before: from 37°4 its temperature rose and kept the whole of the next day in the neighbourhood of 40°; a considerable œdema which had been produced, as before, at the point of inoculation, did not disappear till the third day.

The minute examination which on several occasions I made of the patient did not allow of my localising the seat of the lesion. Auscultation and percussion of the chest revealed no suspicious point. The animal is therefore certainly tuberculous; but it is impossible to say what organs are affected and in what degree. It will soon be slaughtered; autopsy will be made of it, and I shall not fail to advise the Society of it that those of our colleagues whom the matter may interest may be present at it.

ABSTRACT OF A LECTURE ON DYSPNŒA.*

DELIVERED BY J. J. GRAHAM BROWN, M.D., F.R.C.P. ED., LECTURER ON THE PRACTICE OF MEDICINE, EDINBURGH MEDICAL SCHOOL.

BEFORE beginning the consideration of the respiratory system I wish to say a few words to you not about a disease but about a symptom—the condition of dyspnœa—a symptom which will meet us over and over again during this course. Dyspnœa is caused by anything which interferes with the due oxygenation of the blood. It may be either subjective or objective, but is most usually of both varieties. The patient *feels* the need of more oxygen, and he *shows* the signs of defective oxygenation of the blood. But while these two forms of dyspnœa are usually combined, it sometimes happens that the dyspnœa is purely subjective, as in hysteria: the patient feeling the need of more oxygen but showing no sign of its deficiency, or it may be purely objective, as is seen in cases of coma. In comatose cases, so long as the patient remains conscious, the dyspnœa shows itself subjectively by the feeling of breathlessness, and objectively (if the respiratory efforts are insufficient) by cyanosis. But as he becomes unconscious, the patient loses all subjective feelings of breathlessness, and the dyspnœa is shown only objectively, by the laboured breathing and by the increasing cyanosis.

The circulation of a blood which is imperfectly oxygenised affects all the tissues. On the respiratory centre it acts as a stimulant and increases the efforts of breathing. This increased respiratory effort may take one of two forms. Either the breathing may become more rapid, or it may become deep, slow, and forcible. Which of these events occurs depends upon the cause. In any particular case the breathing is altered in such a way as to do most good with the least expenditure of energy, to oxygenise the blood to the fullest extent without unnecessarily exhausting the muscular and nervous apparatus. If, as in the case of some obstruction in the upper air passages, a more powerful effort will overcome the difficulty and duly inflate the lungs, then the breathing becomes deep and slow and forcible. But if, on the other hand, no increase of force will achieve this result, as, for example, in cases in which the air cells are filling with effusion, then the breathing becomes fast and shallow.

And the same law governs the question of whether inspiration or expiration is to be most increased in strength. If the difficulty consists in the entrance of air as in obstruction of the upper air passages, then the dyspnœa is inspiratory. But if the difficulty is rather in the expulsion of the air, as in cases of asthma, the effort is an expiratory one. But often these are combined.

The clinical picture presented by a patient suffering from dyspnœa is a very striking one. Not only are the ordinary muscles of respiration in vigorous action, but the accessory muscles are also brought into play, the nostrils dilate, the palate is raised, the glottis is opened, and, in order to get the most work out of his muscles, the patient grasps some article of furniture, so as to give the muscles attached to the shoulder-blades a fixed point from which to act.

The results upon the thorax are very marked. When the dyspnœa is inspiratory and the thorax is powerfully expanded, the air not entering freely, nor keeping pace with the expansion of the thorax, there is a tendency to the formation of a vacuum, and therefore the atmospheric pressure forces in the more yielding parts of the chest wall, the lower ribs, the epigastrium, and the tissues above the clavicles. In children, where the thoracic walls are very yielding, deformities of the thorax are frequently produced in this way, and may remain throughout the whole of life. Some of these deformations of the thorax I shall describe to you more particularly in a future lecture.

* Delivered October 13th, 1897.

When one is called to see a case in which there is dyspnœa, the first thing to do is to try to determine the cause. The ways in which this symptom arises are numerous, and there is often more than one cause at work. To make this point more clear I shall endeavour to classify the causes of dyspnœa as follows :—

(1) *Central causes.*—We all know that excitement of any kind may give rise to acceleration of breathing, this condition showing itself more in women than in men, partly because the costal type of the breathing in the female makes the condition more obvious than is the case in the costo-abdominal breathing of men. In hysteria and neurasthenia the centres are in a state of increased excitability, and in such patients the very least excitement is apt to bring on dyspnœa. And, further, you not uncommonly have the phenomena of breathlessness produced by some condition of blood which influences the respiratory centres. Of this nature is the "heat dyspnœa," arising from that stimulation of the centres which blood, circulating at a pyrexial temperature, occasions. The toxines which accumulate in the blood in cases of uræmia and of diabetes, may also act as stimuli to the centres, and so give rise to dyspnœa.

(2) *Interference with the respiratory movements.*—In cases of pleurisy, the pain which the patient suffers compels him to make the excursions of the thorax as small in extent as possible. The volume of air which enters the chest with each inspiration is therefore diminished, and hence he is obliged to breathe more rapidly in order that a due amount of oxygen may reach the blood in any given time, More dangerous conditions in which the respiratory movements are interfered with are found where, as sometimes happens in cases of polio-myelitis, the muscles of respiration are more or less completely paralysed.

Paralysis of the diaphragm, either from central causes or from neuritis of the phrenic nerve, may give rise to dyspnœa. This, however, does not attain any high degree so long as the patient remains at rest, the other muscles of respiration sufficing to maintain the due aeration of the blood. When, however, the patient attempts to make movements, the dyspnœa shows itself in a very marked fashion. The presence of pleurisy on the diaphragmatic surface, or of peritonitis in its neighbourhood, may cause its movements to be curtailed.

But the movements of the diaphragm may be interfered with by more simple causes. The upward pressure of tumours in the abdomen, of ascites, or of distension of the stomach and intestines with gas, may seriously limit the movements of the diaphragm in respiration.

And, not only may the movements of the thorax be interfered with in the course of disease, but also the excursions of the lungs themselves may be thus limited. This is the case in passive pulmonary congestion, resulting from heart disease, where the great engorgement of the pulmonary capillaries renders the lung tissue, as a whole, stiff, and the consequent limitation of its movements gives rise of itself to dyspnœa.

(3) *Obstruction in the air passages.*—In persons in whom the sensorium is intact, obstruction in the nose such as that caused by catarrh, by polypi, or by adenoid growths, does not materially affect respiration, save in the case of infants, in whom, during the act of sucking, the freedom of air-play through the nostrils is essential. You will find that one of the difficulties in rearing children suffering from that syphilitic affection of the nasal mucous membrane which produces "snuffles," consists in the impossibility of such a child sucking naturally.

In comatose adults, nasal obstruction, produced by dried crusts of mucus, may be of considerable moment, and in cases of extreme nervous exhaustion the flapping of the alæ nasi, from loss of tone in their muscles, constitutes an impediment to respiration.

In the pharynx, the tongue may fall back on the palate (as in snoring) and cause stertorous breathing, and in comatose persons, especially in cases of apoplexy, this may produce a considerable degree of respiratory obstruction. The free entrance of air may also be impeded by the presence of enlarged tonsils, adenoid growths, retro-pharyngeal abscess, diphtheritic membrane, and other similar affections.

Much more serious obstruction to respiration occurs in connection with various affections of the larynx. Such obstruction may arise in laryngitis, in œdema of the glottis, in diphtheritic or croupous affections, in spasm of the glottis (as in laryngismus stridulus), from tumours in the larynx itself, or from tumours (particularly aortic aneurism) pressing on the recurrent laryngeal nerve. Perhaps the most serious of all, and one from which fatal asphyxia often arises, is paralysis of the posterior cricoarytenoid muscles. Their function is to keep the glottis open, and when they fail the chink becomes narrowed in a valvular fashion, the cords being intimately forced together by the air pressure from above. A most serious condition may thus arise.

In connection with the trachea, obstruction to respiration may occur in some forms of bronchitis, from the accumulation of very abundant mucus. Its lumen may, further, be obstructed by pressure from without: This arises in some cases of mediastinal tumour. An aortic aneurism, for example, may press on the trachea near its bifurcation, and it is said that, in cases of heart disease, the distended left auricle may do the same.

In the brouchi, obstruction to the free entrance of air is frequently caused by accumulation of secretion. In the bronchitis of the young, and in that of the aged, this is often a very serious condition. By the pressure of an aortic aneurism, or of the distended left auricle in mitral disease, the left bronchus may be compressed and its lumen seriously narrowed. A very high degree of obstruction is met with in asthma, due to spasm of the smooth muscular fibres in the walls of the bronchi. The obstruction in this case is chiefly expiratory.

(4) *Dyspnœa from diminished alveolar area.*—It is hardly necessary to point out that all forms of exudation into the alveoli of the lungs, whether passive, as in pulmonary œdema, or active, as in pneumonia in its various forms, diminish the air surface used in respiration, and cause more or less dyspnœa. A similar result follows when the cavity of the thorax is encroached on and the lung substance compressed, as occurs in cases of pleuritic effusion and of intra-thoracic tumour. The destruction of many of the alveolar walls, which takes place in vesicular emphysema, produces a like result.

(5) *Dyspnœa from deficiency of oxygen in the inspired air.*—To some extent the dysynœa from which mountain climbers suffer is attributable to the rarity of the atmosphere at high altitudes, larger quantities of air, and consequently deeper breaths being required in order that a normal quantity of oxygen may reach the blood. Similarly, when one breathes a vitiated atmosphere, dyspnœa may arise, though this is in part due to poisoning with carbonic acid.

(6) *Dyspnœa from defective circulation of the blood.*—Clearly it may happen that, though a normal quantity of oxygen is reaching the alveoli, the circulation of blood in the pulmonary capillaries may be so slow that oxygen, in quantity sufficient for the needs of the body, is not taken up. Dyspnœa very frequently arises in this way. All uncompensated valvular lesions, especially those of the left heart, are apt to show this symptom. But, in many of these cases, not only is there present a more or less constant dyspnœa, but also paroxysms of great breathlessness occasionally occur, resembling bronchial asthma, a condition usually known as "cardiac asthma." They generally come on during the night, and are, by many, considered to be due to that condition of "lung stiffness" to which I have already directed your attention.

METHODS OF MEAT INSPECTION.

BY LEONARD PEARSON, B.S., V.M.D., VETERINARY DEPARTMENT, UNIVERSITY OF PENNSYLVANIA.

It is not necessary to submit any argument to prove the importance of meat as an article of diet. This is a matter that is so thoroughly understood and universally recognised that it may be accepted as axiomatic that meat is not only essential as food, but that the activity of a people is indicated largely by the amount of flesh consumed. In 1890 the British Government published a table showing the amount of meat used in the different civilised lands. The table supports the statement just made. The amounts consumed per capita and per annum are as follows :—

Australia	111·6 kg.	Belgium and Holland ..	31·3 kg.
United States	54·4 „	Austria and Hungary ..	29·0 „
Great Britain	47·6 „	Russia	21·8 „
Sweden and Norway ..	39·5 „	Spain	22·2 „
France	33·6 „	Italy	10·4 „
Germany	31·6 „		

It will be seen that the amount consumed in the United States is greater than in any other part of the world, with the exception of Australia, where meat is so very cheap that only the more desirable portions are used as food, and the actual consumption is less than the figures indicate.

Since flesh enters so largely into our diet, and since it is derived from animals that undergo the same disease-processes that we do, and is composed of such fragile compounds that it takes on irritant and toxic properties very quickly, unless handled with the greatest care, it is not surprising to learn that the control of this food has attracted the attention of sanitarians from the earliest times. The first meat inspection was under the control of ecclesiastical authorities, and in some sects, as the Mohammedans and Jews, it is carried out under the same direction to this day. Such an inspection, when originated, was as careful and thorough as the knowledge of the times would permit, but the regulations under which it is now enforced do not represent the most useful and efficient methods.

In the last century the general public was aroused, and many of the countries of Continental Europe passed laws providing for the inspection of meat, and some municipalities erected abattoirs, where all of the slaughtering of the city should be carried on under competent supervision. More recently, since the bacterial origin of many diseases has been demonstrated and the close relationship of many of the diseases of man and animals has been established, the importance of rational meat inspection has been greatly emphasised. At this time all of the countries of Continental Europe and the British Isles have a system of meat inspection, which, although incomplete in some places and in some details, is in the main sufficient to protect the consumer from the numerous maladies that may be contracted by eating the flesh of diseased animals, or meat that has been improperly cared for or preserved.

The system of meat inspection that has proven most satisfactory in Europe includes the establishment of a municipal abattoir under the direction of a veterinarian trained in meat inspection, and it is provided that all animals killed locally shall be slaughtered in this establishment. All meat-producing animals are examined while living and after they are killed. Both inspections are made because there are some conditions that cannot well be detected after the animal is slaughtered, but often have an important effect on the quality of the meat, as fever, fatigue, exhaustion, starvation, and excitement. After an animal is slaughtered its organs and flesh are examined for evidences

of diseases that are directly transmissible to the consumer, parasites that may be injurious, and other conditions which, while not directly transmissible in themselves, render the flesh indigestible or toxic, and thus produce digestive disturbances or more serious disease. The carcase is also examined for the purpose of discovering conditions that render the meat innutritious or offensive, such as chronic wasting diseases, emaciation, old age, immaturity, and advanced pregnancy. Moreover, the method of slaughtering and handling the dressed meat is supervised, and it is seen to that all of the steps are carried out in a cleanly manner and that the meat is not unnecessarily contaminated by carelessness and filthy surroundings. The conditions and diseases to be sought for and avoided are so numerous that they cannot be discussed at greater length in this paper.

Germany has more than six hundred slaughter-houses belonging to municipalities; each of these is under the direction of a veterinarian. In most of them there are separate halls for slaughtering the different kinds of meat-producing animals: one each for cattle, sheep, and swine. The butchers in these cities pay a reasonable rental, and are permitted to use all the facilities provided, and to enjoy the advantages of buildings equipped with all possible labour-saving devices and modern conveniences. Each slaughter-house has a large cold-storage chamber, which can be used by the individual butchers upon the payment of a small fee. In this way the butchers who kill but a few animals a week, and cannot afford to equip satisfactory establishments of their own, receive all of the benefits enjoyed by those who conduct large businesses. Moreover, their meat goes on the market with the official stamp of the inspector, showing that it is wholesome. The meat that is condemned is made into fertilizer by the establishment on the account of the individual butcher, and this part of the business is conducted so well, that it is usually possible to realise from 20 to 25 per cent. of the original cost of the animal. This saving cannot be effected under less favourable conditions.

In this country the existing systems of meat-inspection may be divided into two classes, national and local. For some years the United States Bureau of Animal Industry has conducted a constantly-improving meat-inspection service that now extends to animals killed for export and for interstate trade in the principal meat-packing centres of the country. The work is performed by veterinarians, who examine all carcasses, stamp those that are sound, and condemn those that are unfit for food. There is also a microscopical examination of pork for the detection of trichinæ, but this extends only to the products prepared for export. Some of the cities in the United States have also organised more or less complete meat-inspection systems. The system in New Orleans, originated and developed principally by Dr. A. S. Wheeler, is perhaps as perfect as exists anywhere in the United States. It provides that all animals killed locally for food, shall be inspected, and the meat is stamped. Moreover, all dressed meat brought into the city must be stamped in a similar way. And it is unlawful for any butcher to sell meat that does not bear the stamp of the meat-inspector. In Montgomery all meat-producing animals are killed in a central slaughter-house, under the supervision of a meat-inspector. These systems, and all that are followed in European countries, place the responsibility of deciding whether a given carcass is suitable for food upon an inspector who is trained in animal pathology.

In some other cities, as Philadelphia, the meat-inspection system is based upon an entirely different principle. There are laws prohibiting the sale of diseased or unwholesome meat, and it is assumed that the butcher is always competent to determine this point. Under this system, detectives or police-officers are appointed to visit slaughter-houses, markets, and butcher-shops,

hunt for diseased or unwholesome meat, which is condemned by a veterinary adviser called in by them, and the seller is often prosecuted. It is scarcely necessary to say that this system is undesirable: First, because it does not include an inspection of all meat sold, and inevitably permits the consumption of much that is injurious; and, second, because it assumes knowledge on the part of the butcher that he cannot possibly possess, and makes him responsible for conditions that he cannot recognise. The system is therefore incomplete, and as a permanent system, it is unjust. Its chief advantage lies in the fact that it tends to make butchers more careful, so that gross pathological conditions do not reach their stalls, and a portion of the diseased meat that would otherwise be placed upon the market, is barred. However, such a system constitutes a beginning in the right direction, but no municipality should be satisfied with it if a better can be obtained.

Municipal meat-inspection is of more importance in the East than in the West, because tuberculosis is more prevalent in this region, and a great many worn out dairy-cows are sent to the shambles. Many of these cattle are afflicted with tuberculosis and other chronic ailments. They are frequently emaciated, and constitute the most dangerous class of beef-animals. Philadelphia is situated in the midst of a bountiful dairy-district, and is a large consumer of these animals. They are not killed in a large central abattoir under constant supervision, but in numerous little slaughter-houses scattered throughout the city and its suburbs. There are about one hundred slaughter-houses in Philadelphia. Many of them are quite small, situated on back streets surrounded by stables and dwelling-houses. In these establishments cattle are frequently killed at night, or very early in the morning, and are not inspected at all. Occasionally, and as often as possible, the inspector drops in while the carcasses are being dressed, and his vigilance is rewarded almost daily by the discovery of a diseased and dangerous animal. The business of these slaughter-houses is conducted so irregularly that it is not possible to properly control them without having almost as many meat inspectors as slaughter-houses, and if the force were enlarged to these dimensions the sanitary conditions and the surroundings of the slaughter-houses would still be such as to seriously injure the wholesomeness and keeping qualities of much of the meat dressed in them.

A further reason for a better system of meat inspection here is that there is a constant and growing demand for many parts of carcasses which are more frequently diseased than the flesh, and were formerly thrown away. Our ever-increasing foreign population consumes viscera for which there was no market a few years ago, and meat inspectors frequently find that such organs are diseased to an extent that renders them unwholesome, while the rest of the carcass can safely be sold. As a result of the fact that inspectors are not constantly present, a great many diseased carcasses are unquestionably sold, and frequently without the knowledge of the butcher who handles them. His training is not sufficient to enable him to detect important symptoms and lesions. In some cases, however, he does detect and remove them so thoroughly that the suspicions of the meat inspector are not aroused.

The conditions that prevail in Philadelphia are not unique. They exist in almost every city in this country, and it is largely on account of the multiplicity of slaughter-houses that thorough systems of meat inspections have not been more generally established. An adequate control of the meat supply of Philadelphia cannot be enforced without a great extension of the present force or a concentration of the business of slaughtering. The latter plan is supported by the experience of all of the older civilised countries, and is to be recommended not only because it would facilitate the inspection of meat, but for several other reasons as well. It would do away with all of the small, poorly-equipped, badly-managed slaughter-houses, which are in many cases

nuisances in their respective neighbourhoods. It would make it unnecessary to drive cattle through the streets, a practice that blocks traffic, frightens people, and at times occasions serious accidents. It would give small butchers the advantages enjoyed by wholesalers; they could use the facilities of the large slaughter-house, which are immeasurably superior to their individual establishments, and the cold storage system could be used by all, with economy to the dealer and advantage and increased wholesomeness of the meat to the consumer. The offal and the condemned organs and carcases could be disposed of to better advantage. Local meat would gain in reputation if such a system were enforced, and trade could be built up on its merits and competition with Western beef would be less difficult.

Moreover, it ha been shown by repeated trials of this system that, instead of increasing the cost of meat, it tends to reduce it.

A large establishment can be conducted by co-operation between butchers at less expense than when each has his own establishment. In Europe such union or central abattoirs are owned by municipalities, and undoubtedly this is the most desirable system, because under it all butchers are assured equal rights and privileges. It has been found that the rentals derived from these establishments are sufficient not only to pay the running expenses, but to afford a reasonable return for the investment. The whole system is not only of great advantage to the consumer of meats, but it subjects butchers to no hardship whatever, and makes it more convenient and cheaper for them to conduct their trade.

RINDERPEST: ITS PATHOLOGY AND THE MEANS USED TO COMBAT ITS INVASION OF S. AFRICA.

BY GEORGE TURNER, M.B. (CANTAB), M.R.C.S., D.P.H.

Medical Officer of Health for the Colony of the Cape of Good Hope; being the Annual Presidential Address to the Cape Town Br. of the British Medical Association, delivered by the Vice-President.

MR. PRESIDENT AND GENTLEMEN,—Some months ago, when our President invited me to read a Paper before this Society I reluctantly agreed to do so, not because I was insensible of the honour, but because the writing of papers is just one of those things I most heartily dislike. I then chose for my subject, "A Retrospect of Five and Twenty Years, showing the Results actually obtained by Sanitary Enactments efficiently carried out, as evidenced by the Prolongation of Life and the Diminution of Death and Disease in England." As the whole of that period is well within my knowledge, and I have been actively employed in the sanitary service for twenty-four years, I thought I might trust myself to write a short paper on that subject, to which you would perhaps listen.

Last March, however, I was called upon to leave Capetown for Kimberley, to take up Dr. Koch's work on rinderpest. This necessarily compelled me to abandon my first intention; because, however well acquainted a man may be with that subject, it would be impossible to write upon it without constant reference to the five and twenty volumes of statistics published by the Registrar-General in England, not to mention other works dealing with the subject. I regretted this necessity, because, if I was doomed to write upon any subject I preferred the one I had chosen as that with which I was best acquainted.

In order to fulfil my promise I suggested to our chairman that perhaps I might be allowed to read a short paper upon Rinderpest, based upon my experience at the Victoria Compound, Kimberley, during the past eight

months. My suggestion was accepted, and, though the subject deals with a disease incident upon cattle, and one which does not affect mankind, and especially the prevention of disease, the treatment amongst both men and animals must be carried out on the same fundamental lines, modified, of course, by the fact that more drastic measures can be applied to animals than is possible in the case of human beings.

Although this paper has been written and signed by me, it must be understood that it is the joint production of Dr. Kolle and myself. Dr. Kolle, although he already talks English readily, cannot at present write it. The actual composition, therefore, necessarily devolved upon me; but we have read it over, and it expresses our opinions, as far as it goes. Later we hope to have an opportunity to discuss matters which have purposely been omitted.

I shall not trouble you with the history of the invasion of South Africa by rinderpest. My friend, Dr. D. Hutcheon, the chief veterinary surgeon for the colony, has related this in his report to the Agricultural Department.

I must confess that, when I heard that Dr. Hutcheon was recommending the wholesale slaughter of cattle and the establishment of a cordon to prevent the passage of the disease across the border, basing his recommendation upon experience gained in the British Isles, I did not agree with him. In the first place, Britain is surrounded by a natural cordon, one which can only be passed at certain points, viz., the seaports, which can be guarded with comparative ease, and therefore the shooting of diseased cattle at once destroyed the infection, which could not readily be renewed from without. In the second place, the ox and cow are by no means such important animals at Home as in this Colony. At Home they serve only for food; here, in addition, the ox is in many districts the sole means of transport. Shooting and quarantine, therefore, entailed far greater and more widely-spread loss and inconvenience in Africa than in England. Besides, I remembered that I had to arrest disease, and have hitherto not been allowed to have recourse to the rifle.

I do not remember that I ever gave expression to my opinions on these points, because they did not happen to come within the scope of my business; and it is fortunate for me I did not, as I was entirely in the wrong, and Dr. Hutcheon entirely in the right.

Mr. Faure and Dr. Hutcheon between them have saved this Colony. But for their work the pest would long ago have reached Cape Town, and there would have been no opportunity for Koch to have carried out those researches which have had such a beneficial effect.

I wish particularly to express my sense of the importance of the work the Agricultural Department performed, because I shall probably have to point out instances in which I think their action was mistaken. Of course, it is easy sitting here, with all the facts before us, to indicate where those who were called upon to act promptly and upon partial information were mistaken; and if the remarks carried the least reflection upon those who, acting in good faith and for the best, inevitably committed those mistakes, the remarks would be in the worst possible taste and most ungenerous. The Colony is to be congratulated that more mistakes were not made.

But, if we recognise the merit of the work—and this I am sure we all do—and keep in mind the difficulties which had to be met, then we may fairly, for the purpose of our own instruction, question the wisdom of any step which has been taken, with a view to our guidance upon some future occasion. The best thing is to avoid a mistake, but the next best thing is to profit by an error. We learn by experience, and we have to pay for experience. Should anything I may say appear to cast any reflections upon others, remember that nothing can be further from my intention.

When, in March, I was asked to go to Kimberley to take on Koch's work, as he was unavoidably called away, I was, as you may suppose, extremely

pleased to have the opportunity of studying such an interesting question. I had the good fortune to be associated with Professor Koch for three weeks or a month before he left, and he spared no means to make me acquainted with the results he had already obtained, and to indicate as fully as possible the line of research he would have followed if he had remained.

For about a month Dr. Kohlstock worked with me, and since last June I have had the advantage of the assistance and advice of Dr. Kolle.

In fact, the work carried out at Kimberley and the results obtained are the direct continuation of Professor Koch's experiments.

Rinderpest is undoubtedly a specific fever, highly infectious, which is naturally fatal to about 85 per cent. of the animals attacked.

A difference may be observed in the mortality, dependent npon the season of the year in which the herds are infected. Thus, in the warm weather, instances were not rare in which a large percentage of the animals, naturally infected, recovered from the disease.

The disease, when acquired in the natural manner from infection through the nasal mucus or the fæces, appears to have an incubation period of about four or five days. But when the animals are infected by means of an injection of virulent blood, and this blood nas been passed from animal to animal, the period is much shortened; then the incubation period is more usually sixty hours, and even in case of very virulent blood, 48 hours. On the other hand, when the smallest possible quantity is used to infect, about 1-1,000 c.c., the disease has a longer incubation period of thirteen days.

The first signs that the animal is infected are given by the thermometer; the temperature rises suddenly from 100 to 102° its normal height, to 105 or even 107°. Very often the first indication is not so much an absolute rise of temperature as an absence of the morning remission. Oxen very often have temperatures of 100 to 101 in the morning, and of 101 or 102 in the evening. When the fever is about to commence, the morning temperature may be found to be 101 or 102, instead of 100 or 101. On the afternoon of the same day the rise will be well marked. Sometimes—more rarely, however—a decided fall precedes the onset of the specific fever.

During the first few days of high temperature the animal may show absolutely no symptoms; it eats and chews the cud. The first symptoms visible are usually a disposition to lie down, cessation of eating and chewing the cud, the hair becomes rough, the nose dry, and the animal is evidently out of sorts. The teeth, too, are ground together with a very audible noise, but this is hardly a diagnostic sign.

After four days' fever, other and more unmistakable symptoms appear; the eyes and nose run, the conjunctiva is red, there is diarrhœa, and a peculiar tremor may be noticed, especially of the muscles of the hind limbs. The discharges from the eyes and nose become thicker, the alvine discharges are offensive, and often consist chiefly of blood. There is much tenesmus, and the animal loses weight. The animal stands with its head and ears drooping —a pitiable object.

About the end of the seventh day of fever, sometimes later, the breathing becomes rapid, the animal is distressed, getting up and lying down again very frequently, and then a sudden fall in the temperature occurs. If the fall is much below normal, a fatal termination may be anticipated with much confidence; but I have seen animals rally even from this in a surprising manner.

The augury is more favourable if the temperature falls gradually. The animal then usually shows a disposition to eat, and there is hope of a recovery. At this time generally, however, a secondary fever commences, due to the intestinal lesions and septic infection. The animals may struggle against this for days and weeks, and recovery is always more or less doubtful

When an animal appears likely to die in the stage of collapse, a subcu-

taneous injection of ether, 10, 20, or 30 c.c. at a time, will sometimes prove very effective. It cannot, of course, cure the fever, but it appears occasionally to get it over a bad quarter of an hour.

When the mouth is examined, aphthous ulcers may be found on the gums and lips, and the pupillæ are of a light red colour; but these appearances, which seem to have been so common in the last English epidemic, were by no means universal or even common at Kimberley. Skin eruptions, also, have been absent.

On the other hand, I have seen a few animals which presented the phenomenon of emphysema over the loins during the later periods of the disease.

On *post-mortem*, the lesions will vary very much, in accordance with the period of the disease during which death has occurred.

If the patient died in the primary fever, the lungs are usually healthy: if in the secondary fever and the respiration has been embarrassed, as it often is, they are emphysematous.

The heart is normal, except that small subserous extravasations of blood are often met with, usually between the ventricles or between the auricles and ventricles.

The liver, spleen, and kidneys in uncomplicated cases are normal, and the muscular tissue presents nothing unusual.

In the intestinal tract the first lesions are found in the fourth stomach. The mucous membrane of this organ is œdematous; it is distinctly inflamed, and generally of a plum colour, spotted here and there with red petechial spots denuded of epithelium, or even with small ulcers. Ulcers are commonly found at the pylorus, and how far they are specific and how far produced by the ingestion of dry fodder into an inflamed stomach, I cannot say. In any case they are very usually present.

The whole of the intestinal tract from the duodenum to the rectum is inflamed. The inflammation is generally more marked just beyond the entrance of the bile duct into the gut, and at a place 18 inches or 2 feet beyond the ileocæcal valve, and again at the rectum.

The rectum, too, is usually the seat of one or two ulcers; but these, in my experience, have been confined to animals at the experimental station, and I suspect were caused by the incautious use of the thermometer.

Peyer's patches are thickened, denuded of epithelium, dotted with red spots, are sometimes ulcerated, and have adhering to them a greyish slough.

The gut occasionally, but very rarely, contains a complete cast of the bowel composed of fibrin and denuded epithelial cells.

The appearance produced by the inflammation is, of course, largely dependent on the distribution of the blood supply and the folds of the mucous membrane.

Thus, in the small intestine, it is striped across, and is likened to the marks on a zebra, but in the cæcum and rectum the bowel looks as if it had been roughly scraped down longitudinally with a wide-toothed comb.

The mesenteric glands are always enlarged, and look like a chain of sausages.

Although the liver, excluding cases of secondary infection, is normal, the gall bladder is with few exceptions inflamed, the mucous membrane is thick, and presents numerous small hæmorrhages; indeed, I have seen the contents of the gall-bladder to consist almost entirely of clotted blood.

The surface of the urinary bladder presents a similar appearance, but is usually not so well marked; the urine in the majority of cases is of a normal colour. The nasal mucous membrane is inflamed and of a dark plum colour.

We have in this description all the signs of an acute infectious fever, with which a specific organism is invariably associated as the prime cause.

Dr. Koch diligently searched for this organism in the blood, in the mucus both of the nose and the intestine, and also in the fæces, but he failed to satisfactorily identify any of the many organisms discovered as the one which gave rise to the specific fever.

Many observers in Europe and Asia have asserted that they had seen and even cultivated the rinderpest organism. The man whose claims appeared the best founded was Simpson, of Calcutta, who stated that he had separated and cultivated a bacillus which communicated rinderpest to animals inoculated with it.

Dr. Koch discovered in some samples of bile an organism which answered to the description of Simpson's bacillus. It was, however, inert. Besides, as it stains readily, if it were the cause of the disease, it would be plentiful in every drop of blood examined, since a fraction of a drop is sufficient to kill a healthy full grown ox. Unless, therefore, the Asiatic rinderpest differs *in toto* from this pest with which we are now only too familiar, Simpson's bacillus can no longer be regarded as the virus of rinderpest.

Dr. Edington, some months back, stated that he had been able to isolate and to cultivate the organism of rinderpest. He said that he was able to infect animals with his cultures, and also that he could salt the animals by the use of a modification of this organism.

Dr. Edington kindly supplied Dr. Koch with cultures of his organism, and they were tested by injection into three healthy animals, and were also examined microscopically.

The cultures were to contain three different kinds of microbes, and the animals injected did not suffer. They were not naturally immune, because three weeks later a dose of rinderpest blood killed all of them.

Subsequently, Dr. Edington discovered an organism in the mesenteric glands to which he ascribed the fever. It was very polymorphic, and he stated that it stained with difficulty. While he was at Kimberley he was good enough to show us his preparations.

We sent to the slaughter-house, and procured the mesenteric glands of a healthy animal, and Dr. Kelle easily demonstrated the presence of the supposed organism in the healthy tissues.

As a matter of fact, these objects were not microbes, but particles of albuminoid matters which readily take the stain.

Both Dr. Kelle and I have examined the virulent blood on hundreds of occasions by various methods, but we have, so far, never been blessed with a glimpse of the living cause of the fever.

This in no way diminishes the certainty that the disease is due to a living virus. There are many well known diseases which must be due to a living virus, but in which it has never yet been demonstrated to the sight. For example, typhus and measles. Of this there is no better example than small-pox. The pus from the disease and also vaccine lymph have been studied microscopically and bacteriologically for years and years; yet, though the presence of a contagium vivum is beyond reasonable dispute, it has never been made visible. In fact, no one as yet has seen the micro-organism of rinderpest, which very probably belongs not to the bacteria, but to some other group of micro-organism.

Whilst prosecuting his search for the organism, Dr. Koch experimented with the fluids of the animals in several ways. He showed that as little as 1-500 of a cubic centimetre of blood sufficed to infect an ox. The experiments performed since his departure show that the quantity required is even less, viz., 1-1,000 c.c., but in these instances the incubation stage was very long—thirteen days. He showed that, after drying, the blood and mucus was inert, that 0·5 per cent of carbolic acid effectually killed the organism in blood, hat the virus was incapable of retaining its virulence in the presence of

glycerine. These experiments have been repeated, and Dr. Koch's opinions have been confirmed.

The idea, too, that coagulation exerts any important effects upon the virulence of the blood has also been amply disproved.

Naturally, Koch, in whose laboratory the serum treatment of tetanus and diptheria was worked out, did not overlook the probability that this might be employed as a curative agent. No bacteriologist would neglect such an obvious step. Messrs. Pritchard and Theiler had experimented successfully in this direction, and later Drs. Danysz and Bordet carried on their important and successful researches upon the same lines. It is true all these gentlemen used defibrinated blood, not serum, but the principle is the same, the defibrinated blood owing all its power to the serum it contains.

I shall speak further, at a future time, on Dr. Koch's work with serum. At present I wish to deal with the method which is inseparably connected with his name, and to which thousands of animals to-day owe their lives. I refer, of course, to the use of the bile.

When I joined Dr. Koch, I said to him, "I can understand how you were led to use a mixture of serum and virulent blood, but I cannot understand how you came to employ bile." He answered, "I was testing the virulence of the various fluids of the body, and, amongst others, used gall from an animal dead of rinderpest, fully expecting that it would communicate the disease. I injected 10 c.c. into an animal which was none the worse for the experiment; on the contrary, when it was subsequenlty inoculated with rinderpest blood, it resisted its action. I immediately tested the bile on six animals, and obtained a similar result."

This has been represented as an accidental discovery. In one sense it may be so described. It is the sort of accident which more usually occurs to those who carry out their investigations in a regular and methodical manner.

The fact that the bile immunised once established, it was put to a practical test, and when used under the conditions laid down by its discoverer, it answered remarkably well.

The immunity conferred was evidently an active immunity, due to the presence of a living organism, because, when four animals were injected with 10 c.c. of the sample of bile, and then 2, 4, 6 and 8 days later with virulent blood, those infected on the second and fourth days, after the injection of the bile, had the fever; the first died, the second recovered. The other two animals escaped entirely. Since then experiments we have made show that the immunity is not always complete even on the sixth day.

After the injection of the bile a swelling rises at the point of inoculation, which is hard and brawny to the feel. The animal is very stiff, and even unable to walk; but, unless the bile contains streptococci or other septic organisms, the swelling does not suppurate and slowly subsides.

If there is suppuration the immunising power of the bile appears, at least in some cases, to be interfered with.

Except for the stiffness due to the swelling, the animals do not exhibit any characteristic symptoms, there is no fever, and the secretion of milk is not interfered with.

Koch's opinion as to the way in which the bile of a rinderpest animal acted was as follows:—The bile contained the organism in its full activity, but this activity was restrained by the presence in the bile of a chemical substance, probably of a albuminoid nature. The effect of such a bile was principally local, but at the same time it affected the whole system, much in the same way as vaccine lymph does with small-pox.

The Professor based his opinion upon the following experiments.

If 0·5 per cent. of phenol be added to rinderpest blood and be allowed to

act during 24 hours, the blood is no longer virulent. Similarly, if the same proportion of phenol be added to rinderpest bile and the mixture be allowed to stand 24 hours, the animal infected with such a mixture is not protected.

But if to a sample of bile, in which the rinderpest organism has been destroyed by phenol, rinderpest blood be added, and injected at once, the protective power of the bile is restored, and the animals injected with such a mixture are immune.

Dr. Koch concluded that he had first by the action of the phenol removed an organism, and by the addition of the virulent blood had introduced an organism; and as, in the second case, that organism was known to be the virulent rinderpest, he concluded that, as the effects were similar, the first was likewise virulent rinderpest.

This is the opinion I received directly from Dr. Koch. I wrote it down and read it over to him to be sure that my notes were correct.

At first I accepted this view implicitly; but upon reflection it did not appear conclusive.

If phenol in the strength of only 0·5 per cent. had such a remarkable action upon the virus, in a fluid so full of organic matter as blood, as to destroy the organism in 24 hours, might it not exert an important action on the organism mixed with it in the bile although used at once or nearly at once. Because, although the injection was made soon after the addition of the phenol, yet the organism must have remained for some time in presence of the chemical in the cellular tissue, since it is not immediately absorbed.

I therefore tested the question in two ways. First, I put rinderpest gall into a Berkefeldt filter, and by means of an air-pump drew the fluid part into a receiver. The first receiver was then removed, and a second substituted. The filter was then washed twice by passing normal sterile salt through it, so as to ensure the removal of all the fluid and soluble matters. The Berkefeldt filter was then surrounded with normal salt solution and scraped with a sterile spatula, in order to wash off any particles adhering to the filter. This fluid was collected in a test tube and examined microscopically. Nothing could be seen, except here and there a stray coccus, which was probably contained in the original bile. This filtrate was then injected into an ox (No. 204). As you see, there was no apparent result; but when, 10 days later, it was then injected with 0·2 c.c. of virulent blood, it withstood its action. Subsequently it was inoculated with greater doses, reaching to 4,000 c.c., and is used for serum purposes. It has already earned more than £200 by its blood, and is still well and strong.

The filtered bile, on the other hand, was injected into four beasts. They likewise exhibited no symptoms, but, unlike the first ox, when injected with 0·2 c.c. of virulent blood, they all had the disease seriously, and two of them died. These last experiments have been repeated with a similar result. The filtered gall always fails to give more than a partial immunity. All animals treated with filtered gall, when subsequently tested, take the rinderpest, and half of them die.

This experiment tends to show that the organism in the rinderpest bile is a modified organism, and not one showing full virulence, and that the filtered gall contains a substance in solution, which has a certain feeble protective action.

I tested the question in another way. If the organisms in the bile were virulent organisms restrained by a chemical substance, then the injection of 10 c.c. of rinderpest gall directly into the venous circulation, would have the effect of diluting the chemical substance to such an extent that, presumably, the organisms would be but little affected by it.

Accordingly, I laid bare the jugular vein of an ox, and introduced into it the needle of a clean Koch syringe which had been filled with normal salt solution.

The salt was pumped into the circulation until it reached the zero mark, and then 10 c.c. of rinderpest gall were introduced into the syringe by means of a pipette. This, too, was driven into the vein, and, lastly, the syringe was washed twice with normal salt solution. In this way the bile never came into contact with the cellular tissue, and no air entered the vein. The wound was washed with corrosive sublimate, and sewed up with carbolised catgut, The animal never had a bad symptom, but it was not immune, because it subsequently succumbed to an injection of 0·2 c.c. of virulent blood.

(*To be continued.*)

Legal News.

HOW DOGS' EARS ARE MANIPULATED.

In the Court of Sessions to-day Lord Stormonth-Darling closed the record in an action by Harry Panmure Gordon, 12, Charles Street, Berkeley Square, London, against Andrew Watson Walker, baker, 72, High Street, Hawick, and James Montgomery, powerloom tuner, Park Street, Hawick. The pursuer is President of the Scottish Kennel Club, is actively interested in dogs, and is well known as a breeder and exhibitor of high-class collies. The defenders are joint owners of a prize collie dog called "Southfield Rightaway," which the pursuer purchased from them on 3rd January last for £100. Repayment of the price is now asked in addition to £10, the cost of keeping the dog since 5th January. The pursuer explains that an essential point in a collie of the class to which the defenders represented "Southfield Rightaway" to belong is the carriage of the ears. It is essential that the animals should have what are known as "drop" ears—that is that the ear tips, when the ears themselves are erect, should drop forward. Without "drop" ears no collie could be awarded the prizes carried off by "Southfield Rightaway," or be classed as he was at Glasgow, Jarrow, and Newcastle shows. When exhibited at these shows "Southfield Rightaway" appeared to have "drop" ears, and he was classed and awarded prizes on the strength of his having "drop" ears. After he received the dog the pursuer was surprised to find that his ears, instead of dropping over, were carried almost erect. Examinations were made by veterinary surgeons, and they are averred to have certified that the dog's ears had been artificially manipulated in order to give him the appearance of having "drop" ears. Such a dog is comparatively of little value, and if shown in a natural condition could not win the prizes or attain the class the defenders represented he could win, and had won, and attained. He is not worth for sale more than a few pounds. The method which the defenders adopted in manipulating the dog's ears was to attach small pieces of metal to the ears so as to render them top-heavy, and to fall over into the desired position. As soon as the pursuer ascertained the true character of the dog he offered to return it, and demanded repayment of the purchase price, but the defenders have declined to comply with this demand. He maintains that he is entitled to decree, as the defenders had deceived him by misrepresenting the dog's qualities, class, and condition. The defenders deny that the sale of the dog was effected by misrepresentation or concealment. In exhibiting the dog they made no representations as to his possession of essential qualities. The

judges alone determined thereon. When sold, they gave no warranty. "Southfield Rightaway" was born on 8th February, 1897. When he was seven months old lozenges were attached to the inside of the ear, close to the tip, with a view to effecting a more perfect ear carriage. These lozenges were taken off when he was nine months old—about three weeks before he was exhibited in Glasgow—and were never again put on by the defenders. This method of training dogs' ears is said to be universally practised by exhibitors of dogs, and in using the lozenges the defenders were not acting in contravention of the rules of the Scottish Kennel Club, nor were they thereby disqualified from exhibiting the dog at any show. The dog had not prick ears, and the price paid was reasonable. The defenders had several offers for the dog, and always willingly afforded any intending purchaser ample opportunity of inspecting the dog. The case was sent to the Procedure Roll.—*Evening Dispatch, February 22nd*, 1898.

NEW ASEPTIC CABINET.

THE above illustration represents a new and cheap form of cabinet which has been made by Messrs. Arnold & Sons, of West Smithfield, at such a price as will come within the reach of every general practitioner. It is made entirely of iron, enamelled white, with ¼-in. polished plate glass top, back, sides, and door, with two plate glass shelves, polished edges, made in two sizes, 18 by 15 by 8, 35s., and 24 by 18 by 11, 55s.

We are pleased to state that these cabinets are all made in London.

Extracts from Foreign Journals.

EPIZOOTIC ABORTION AND ITS CAUSES.

(From *La Revista Veterinaria* of Buenos Ayres.)

OUR readers will remember the epizootic of abortion which caused such serious damage amongst our studs in 1893-94, and for which no specific cause could be discovered. In Europe, where epizootics of abortion are very frequent, especially among cattle and sheep, and in North America amongst mares, the same difficulty has been found. The presence of M. Lignières, in Buenos Ayres, gives us the opportunity of discussing this disease and observing the results of the investigations made by Mr. Young, laboratory-assistant of M. Nocard.

Contrary to the practice of his predecessors in the study of epizootic abortion, M. Lignières, before studying the organism of the affected animals, made a systematic study of the normal fœtus and of the uterus of the healthy cow. This investigation allowed him to compare the healthy and the diseased organisms, and to arrive at observations as original as they are interesting. In opposition to the prevailing belief that abortion is due to purely uterine infections, to which *the mother is entirely a stranger*, M. Lignières has demonstrated that the blood and the organs of the healthy mothers, and of the healthy fœtus, contain very often microbes of various kinds, although always in small numbers—thus destroying the legend of the perfect filtration which has till now been supposed to be performed by the placenta of pregnant females. Pursuing this course, M. Lignières next attacked the study of the organism of the diseased mother and fœtus, and after innumerable investigations, arrived at the following conclusions hitherto unpublished. First, that the organism of the mothers that have aborted presents lesions that are visible to the naked eye; this organism is always more infected than that of the healthy mothers. Second, that the micro-organisms which infect them are of very varied species, and generally more pathogenic than those collected from healthy or uninfected females. M. Lignières next calls attention to the lesions of the intestinal ganglia, and to the cultures of the microbes which they contain; these give us a glimpse of the infective part played by the digestive tract. The muco-purulent uterine liquid of the females that have aborted is extremely rich in microbes of very varied species. In proportion as time elapses from the moment of abortion, the microbes diminish in number in the uterus, and disappear completely at the end of from one to two months. The uterine liquid is always alkaline.

Although the aborted fœtus may present micro-organisms in very small numbers in its organs, the rule is that it is found to be incomparably more infected than the healthy fœtus. There are found in its tissues, generally in great number and disseminated very irregularly, microbes of very varied species.

Making a comparative study of abortion in other domestic animals, such as ewes and mares, M. Lignières arrived at the conclusion that repeated abortions in these species are, as in cows, the result of an infection of the maternal organism, particularly of the uterus and fœtal apparatus Amongst the micro-organisms, isolated and studied by M. Lignières from the point of view of its influence on gestation, there is one, the coli-bacillus, which he has specially noted; still he has ascertained that this micro-organism alone is powerless to produce abortion. It requires—just as other microbes—in order to pass into the system, certain conditions which have to be determined.

It was precisely whilst investigating these conditions that M. Lignières discovered the important part played by a special bacillus which he has studied and described minutely. He has ascertained that the toxins produced by it bring about in the mucous membranes and cells of the digestive tract paralysis of such a sort that the ordinary microbes contained in the intestines pass in great numbers into the other organs, then into the blood. The bacillus of abortion has been sought for, generally without success, in the blood and in the uterus and its product: it appears that its presence there is not necessary, and that it is capable of producing abortion even from its position in the digestive canal of the mother; also that a very small number of bacilli penetrating into the organism may bring about the trouble. But M. Lignières has variously discovered the bacillus in the blood and in the genital apparatus of aborting animals; he has discovered it in mares, in the digestive tract of cows that have aborted, and in the genital organs of sheep attacked by the same contagious affection. After studying from all points of view the life of the microbe, and making sure that this bacillus is the sole cause of the pathological phenomenon in question, M. Lignières proceeded to experiment in the way of producing abortion artificially. He introduced specific microbes into pregnant females of the guinea-pig; by varying these experiments, he succeeded in reproducing all the phenomena of infectious abortion in cows. In the aborted fœtus of the guinea-pig he found the same micro-organisms as in the fœtus of the cow, and a few more; with the aid of infected guinea-pigs and rabbits he could produce at will abortion in cattle. It is now easy to explain the mode of infection and contagion of epizootic abortion, and to show the real importance in practice of preventive measures which have for their object the disinfection of the digestive canal, pending the discovery of some *preventive inoculation;* on this point the labours of M. Lignières have given us only negative results.

SURGICAL INTERVENTION BY THE VAGINAL PASSAGE IN CERTAIN CASES OF STOPPAGE OF THE INTESTINES.

Colics caused by stoppage of the intestine are justly regarded as very serious, the means at our disposal for remedying them being as scarce as they are uncertain. The employment of agents which stimulate the activity of the intestine, as, for example, injections of salts of eserine or similar drugs, extraordinary exercise of the animal, whether up or down hill, either at a walking pace or a trot, fomentations, etc., are a number of means which are incapable of causing the disappearance of stoppage of the intestine. It is only with difficulty (as anyone will know who has made observations) that by the procedure indicated above fæcal masses can be caused to disappear (and even then these masses must be pretty soft), or that the cure of invaginations or poisons, etc., can be effected by the movements of the animal. These means, in the cases which occupy at present our attention are always, we may say, fruitless of result. It is not in every case that they can be employed with confidence. Another means appears more sure, and it is the only one which, up till now, has been used to cause the disappearance of certain obstacles—I mean the operation of laparotomy. By introduction of the hand into the abdominal cavity, it is easy to act directly on the cause of the stoppage and make it disappear. But is not opening of the flank a very dangerous operation, and, if not always, almost always fatal? The asepsia and antisepsia are very difficult—indeed, almost impossible—in view of the circumstances of the medium on which they are to be practised, and the great susceptibility of the peritoneum in the horse. If, however, it is the only means that can be

employed, there is no reason for hesitation. Whether the subject dies as a consequence of the operation or of the stoppage, the result is the same; there is only a chance, if the operation succeeds, of gaining our end. For my own part, the results I have obtained in the few cases of colic of this kind by performing laparotomy are not encouraging. This operation has so far given me not a single favourable result, in spite of all the precautions I have taken to avoid peritonitis. The last case will, I think, give some idea of what is to be expected from this operation.

The patient was a draught gelding, four years old. Called in to attend to this horse when it was affected with colic, I saw it when the disease had just made its appearance. The pulse was a little accelerated (46 pulsations), its sufferings far from intense, and there was constipation. The patient assumed peculiar attitudes, went down on its knees, remained for a certain time in this position; then it got up and kept quiet for seven to ten minutes. After this, it scraped the earth with its feet knelt down again or let itself fall down, rolled about, threw its legs in the air, and remained in this position for some time. These symptoms repeated themselves from time to time, with irregular intervals. There was flatulency, especially on the right side. On both sides of the flank could be heard crepitation, due doubtless to the fruitless action of the contractions of the intestine. These noises, which seemed to lose themselves far up the intestinal tube, were more pronounced on the right side than on the left. By investigation of the rectum, I came upon a mass, hard enough towards its extremity, and difficult to depress at this point, but softer in front. This mass was situated on the left side, a little in front of the pelvis; it was in a way the continuation of an enlargement of the intestine by gases and fæces.

Diagnosis.—Fæcal mass situated in the floating colon.

Treatment.—Injection of 6 centigrammes of nitrate of pilocarpine and 8 centigrammes of neutral sulphate of eserine: warm fomentations every half hour; kept the animal well covered up. Five hours later I saw the animal again; the number of pulsations had increased (65); the flatulency persisted; no defecation; the mass remained in the same state; the colic became more intense, but with the same specific characteristics; in fact, no result. A fresh injection was made with 12 centigrammes of sulphate of veratrine. I informed the owner that if this injection should fail, there was only one means that could be resorted to; to open up the left flank and act upon the mass with the hand with the object of breaking it up. I likewise informed him that not only was the case a serious one but also that the operation was in itself dangerous. The owner answered that the horse was at my disposal; I was to act for the best. That was about 4 o'clock in the afternoon. I saw the animal again six hours afterwards; no defecation; the animal let the hot clothes that were applied to it slip off; the flatulency was the same as before; the pulse had increased (80 beats to the minute), and the colic manifested itself without ceasing. In view of this state of matters laparotomy was decided upon, but before this I made a fresh hypodermic injection of 10 centigrammes of sulphate of eserine, but without result. The horse was laid on its right side, on a very clean litter; for convenience sake the hair was shaved off at the point where the operation was to take place; the skin was washed with phenic soap, rubbed quite clean, and washed again with strongly phenicated boiling water, rubbed dry, and then washed a second time with a solution of corrosive sublimate. The instruments (needles and bistouris) having been sterilised, hands and arms disinfected, I made an opening in the flank in the usual way, and in the abdomen I easily found the mass; pressure with the hand enabled me to lengthen out the mass backward, and, at the same time, to decrease its thickness. This operation lasted four or five minutes; I then noticed a sharp movement caused by the passage of

the gases and liquids accumulated in front of the obstacle. (I had taken care to wrap up that part of the arm outside the abdomen with a cloth dipped in a corrosive sublimate solution, so as to prevent air from penetrating into the abdominal cavity and the fall of small hairs into the wound.) The arm was drawn gently back to allow the lips of the wound to draw together without any air getting in; a suture with sublimated catgut was applied to the exterior layer of muscles; the exterior wound was thoroughly disinfected with a solution of corrosive sublimate; a very firm suture was applied to the skin so as to prevent the slightest quantity of air from getting in. When the horse got up the flatulency had completely disappeared; it took the mash offered it. Subsequent treatment—Application on top of the suture of a corrosive sublimate ointment; keeping a cloth moistened with a solution of sublimate on the top of the suture. Sulphate of sodium in its drinks. During the night it passed fæces in abundance; next day the pulse was almost normal, the patient took its mashes, and pulled at the straw with appetite. The same state continued for five days; on the morning of the sixth day, intense peritonitis set in, and in the evening the horse was dead.

This account clearly proves that the original malady was cured, and that despite all the precautions that had been taken during the operation, death was simply the result of the operation. From that moment I determined that when I got a case of the same kind in a mare, I would get to the abdomen by another way, through the vagina, so as to diminish as much as possible the number of cases in which one would be compelled to resort to laparotomy. Having practised spaying on a large number of vicious mares, and that without the slightest complication, I wondered whether the vaginal passage would not render accessible to the hand certain obstructions of the intestine, and thus allow of operating without any danger to the animal as the result of the operation. Experience has shown me that the thing is possible, and the principal object of this paper is to show that it is so.

Since that time, I have had two cases brought before my notice; one of a fæcal mass and another of torsion of the great intestine. The first case is that of a heavy cart-mare, five years old, in good condition. It was a reproduction, a little less exact, of the case mentioned above. After having employed the same means as for the other patient, with equally bad results, I made an incision in the upper part of the vagina, and a little behind the neck of the uterus, as practised in spaying, after, of course, having disinfected the genital regions, my instruments, and my arms; in a word, after taking all possible operative precautions. Introducing my right hand into the abdomen, I immediately lighted upon the mass which I crushed, through the intestinal walls. At once I easily perceived the passage of gases through the obstruction, which was more or less broken up, and then the disappearance of the mass. A short time after, gas was evacuated, followed soon after by voiding of fæces. The next day the animal was quite relieved, the pulse almost normal. The animal took mashes and the food offered to it in small quantities. From the operation there remained nothing more than a little sensitiveness from the passage of fæces above the incision during defecation. At the end of four or five days, this pain had disappeared, and the mare was from that time considered as completely cured. She was able to return to work about fifteen days after the operation.

The second case is one of torsion of the pelvic ansa of the great intestine. The patient was a mare, four years old, half bred, which had foaled 24 hours before. At my first examination the animal showed signs of not very painful colic, without special characteristics; the pulse was slightly accelerated (48 beats); the eye normal; a little flatulency. The teats had diminished in size; by milking them only a few drops could be extracted; there was constipation. On examining the rectum, my attention was attracted to this fact

the bend of the pelvic ansa of the great intestine, slightly distended by gases, was drawn forward; it did not occupy, as it does in its normal state, the entrance to the pelvis; it was quite separated from it, about 25 to 30 centimetres. I should have been inclined to believe that it was a simple swelling of the intestine, as frequently occurs in mares after foaling, but examination of this symptom caused me to forecast a graver injury; the separation of the pelvic ansa from the great intestine could only have been produced by its rotation on itself. I was the more inclined to believe in this supposition because I had observed the same case a few days before in a mare that died of colic after foaling and presented on autopsy a torsion of the intestinal ansa (2nd and 3rd part of the colon twisted back). In this patient likewise the displacement in front of the curvature of the pelvis was manifest on investigation of the rectum. An injection of 10 centigrammes of sulphate of veratrine was made; at the end of about an hour it caused the animal to void twice, but very little. Four hours later the animal was apparently in the same state; the colic had not increased in intensity; the constipation continued. A fresh hypodermic injection of 12 centigrammes of sulphate of eserine gave no result. About eight hours afterwards I made a last injection of sulphate of eserine before trying an operation, and there was still no improvement. The colic at this moment was also more intense; the pulse had considerably increased (76 beats). Absence of any good result after these successive injections made me feel grave forebodings. Without being absolutely sure of success, but certain that reaching the abdomen through the vagina is harmless, and cannot aggravate the condition of the patient, I made an incision behind the neck of the uterus. Introducing my hand into the abdomen, I caught hold of pelvic ansa of the great intestine I twitched this part of the intestine several times backwards, producing a kind of shaking movement, at the same time avoiding, be it understood, perforation or tearing of any kind. This manœuvre was followed at the end of five or six pullings by a movement of the intestine which I could not quite understand, and at the same time I felt under my hand a wave of gas; at that moment the pelvic ansa resumed its normal position. It is needless to add that the greatest operative precautions were taken, as in the former cases. As soon as the operation was finished and the patient on her feet again, the colic grew less, the next day it had completely disappeared: the pulse was less fast (56 beats). There still remained a little uneasiness, but mashes and straw were taken with a good relish. The milk returned gradually, the teats filled up; defecation, plentiful at first, became normal. Twenty-four hours later the foal was able to be restored to its parent. As time went on, its improvement continued; this mare, however, remained more unwell than the other had for four or five days. This was, no doubt, due to her having recently foaled, and therefore to a uterine irregularity; perhaps also to the injury caused by the torsion. The recovery was complete towards the twelfth day.

To these cases, at present, my observations are limited with regard to the operation which I propose to proctise in cases of intestinal stoppage, when the trouble can be got at by hand by way of the vagina. To sum up, this operation seems to me to be the most practicable, the only practicable one, I may say, in cases of intestinal stoppage in the mare. It is thus possible to remedy accidents which are comparatively frequent, for the diagnosis of which investigation of the rectum is of great importance. Laparotomy remains no longer necessary, except in certain cases, such as the falling of the intestine into Winslow's hiatus, invaginations, etc., situated in the anterior portion of the abdominal cavity—all causes of stoppage which are absolutely serious, and almost impossible to diagnose otherwise.—E. Deghilage in *L'Echo Vétérinaire*, January, 1898.

Notes and News.

EVERY generation more or less modifies its ethics, and revises its proverbs. There is one proverb which might now read, "Who shall decide when veterinary surgeons disagree?" The relations of the different veterinary authorities are as difficult to deal with as those of China and Japan, Germany and France. There is a Royal College of Veterinary Surgeons situated in London which, like so many other institutions in London, draws no small part of its life-blood from Scotland. There are in Scotland three—in Edinburgh, two—rival and therefore valuable colleges, each competing for public patronage, and all under the thumb of the R.C.V.S. That these Colleges have inveterate antagonisms, everybody knows. But now a totally different kind of difficulty has arisen. A young lady—Miss Custance by name—has had the very reasonable wish of passing as a veterinary surgeon. She has, of course, had to face the same kind of opposition the first would-be lady medical had to face. For the nonce she has apparently been defeated. But it is the first crack in the ice that foretells the breaking up of the surface of the pond. And the very pother the Royal College of Veterinary Surgeons has made about the proposal to let Miss Custance have her degree is prophetic of the triumph of her cause. The Royal College has, of course, spared no expense in maintaining the masculinity of its gender. "Bring forth men children only" has been taken as its motto; but if we turn to our Shakespeare, we find that the advice was given by a bad man to a worse woman. Why should the brilliant horsewoman not know something scientifically about her horse, and have the pleasure of knowing that she is known to know? Why should the farmer's wife, who has to deal with the cows and the sows and the lambs and the chickens, not get, if she wants it, an education vouched for by the best authorities in the country? Why should not the brave women who look forward to roughing it as the helpmeets of brave colonists not receive from our veterinary colleges the training best suited for their life on the ranche or the sheep farm? That the New Veterinary College of Edinburgh has been the first to raise the question will, we believe, ultimately redound to its credit. But in the meantime, the Royal College of Veterinary Surgeons in London is busy with a much more important question than even that of male and female. It is desperately concerned about its notepaper. At its last quarterly meeting this was one of the principal subjects discussed with all the gravity of a company of Spanish grandees or Chinese mandarins assembled to determine the "etiquetical" value of a lion, or the ceremonial importance of a button. There is, as it appears, a Scottish official "Secretary to the Board of Examiners" of the R.C.V.S., who is too valuable a man to be dealt with as cavalierly as the R.C.V.S. sometimes are supposed to deal. The Royal College treats Mr. Rutherford, according to the Waltonian advice, to insert the hook as if you love the worm. Mr. Rutherford has hitherto been accustomed to receive (we believe) all the fees paid by the students attending the Scottish Veterinary Colleges; he has been accustomed to attend the examination, and write out the examination reports; and he has been accustomed to countersign the diplomas which, in the name of the Society, are handed over to successful candidates. The only register the "diplomatees" of the College have been required to sign, is the register under his charge. On his notepaper he has been accustomed to notify three facts—that he is the official representative of the Royal College of Veterinary Surgeons, that he deals with the business of the Society in the ignoble country of Scotland, and has his official headquarters in the insignificant city of Edinburgh. By doing so Mr. Rutherford was, according to the President of

the R.C.V.S., almost the occasion of landing the Society in the awful position of having admitted a lady student! Happily for the old-fashioned traditions of the R.C.V.S., its solicitor, Mr. Thatcher, and the ex-Solicitor for Scotland, Mr. Shaw, were skilful enough to get a Scottish judge to give a precarious judgment as to jurisdiction. What Mr. Thatcher's opinions in regard to Home Rule are we know not, nor shall we needlessly inquire. What Mr. Shaw's are we ought by this time to know, at least in part. How has it come to pass that an ex-Solicitor for Scotland, with certain views in regard to Ireland, has uncertain views in regard to Scotland, and helps a society founded we believe, as a Royal College for more than England, to act (with regard to its stationery at least), as if its officials in Scotland, indicating both their relations to the Society itself and to the country where the Society has to do a large part of its work, were mere "unchartered libertines?"—*The Edinburgh Evening Dispatch*, February 5th.

A COMPLIMENTARY dinner is to be given to Professor Sir George Brown, Adviser to the Board of Agriculture, by the members of the Royal Veterinary College, at the Hôtel Métropole, on March 4th, in recognition of his long and valuable services in the advancement of veterinary science. Earl Spencer, Mr. Walter Long, M.P., the Minister of Agriculture; Sir Jacob Wilson, Mr. P. Muntz, M.P., and Sir Nigel Kingscote are among those who have accepted invitations.

Review.

We have been experimenting with Mr. B. Kühn's "Chinosol," and found it to be a most powerful deodoriser and disinfectant; it is also of great value in skin diseases of the various animals.

Its great advantages are cheapness, which is a most important essential when large quantities have to be used; its consistency of strength, its great efficiency, and last, but not least, its use is not accompanied by any disagreeable odour.

It can be obtained at B. Kühn's, 36, St. Mary's-at-Hill, London.

Communications, Books, Journals, etc., Received.

The Lancet; Land and Water; Veterinarian; Veterinary Record; American Veterinary Review; Journal of Comparative Medicine; Australian Farm and Home; Results of Use of Tuberculin, by James Wilson, M.A.; Bacteriological Diagnosis, by St. John Reid; Country Life Illustrated; Recueil de Médecine Vétérinaire (Alfort); La Presse Vétérinaire (Paris); L'Echo Vétérinaire (Liége); Annales de Médecine Vétérinaire (Brussels); Berliner Thierärztliche Wochenschrift (Berlin); La Clinica Veterinaria (Milan); Il Nuovo Ercolani (Pisa); La Revista Veterinaria (Buenos Aires); Deutsche Thierärztliche Wochenschrift (Hannover und Karlsruhe); Archivos de Medicina Lisbon: José Bastos); The Johns Hopkins Hospital Reports; a Text Book of Veterinary Ophthalmology, by Geo. G. Van Mater, M.D., D.V.S.; Trattato di Tecnica, e. Terapeutica Chirurgica Animali Domestici del Dott. N. Lanzillotti, Buonsanti; the Clinical Diagnosis of Lameness in the Horse, by W. E. A. Wyman, V. S., South Carolina; the Scottish Medical and Surgical Journal.